? b 410

09apr02 13:29:43 User217743 Session D547.1
$0.00 0.225 DialUnits FileHomeBase
$0.00 Estimated cost FileHomeBase
$0.00 Estimated cost this search
$0.00 Estimated total session cost 0.225 DialUnits
File 410:Chronolog(R) 1981-2002/Feb
(c) 2002 The Dialog Corporation

Set Items Description
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? set hi *;set hi *
HILIGHT set on as '*'*
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? b 155
09apr02 13:29:48 User217743 Session D547.2
$0.00 0.073 DialUnits File410
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$0.01 Estimated cost this search
$0.01 Estimated total session cost 0.298 DialUnits
File 155:MEDLINE(R) 1966-2002/Mar W5

Set Items Description
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? s gonadotropins or gonadotrophins or
gonadotropic()hormone? 34171 GONADOTROPINS
2293 GONADOTROPHINS
1702 GONADOTROPIC
284698 HORMONE?
535 GONADOTROPIC(W)HORMONE?
S1 35699 GONADOTROPINS OR
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? s coadministration or co()administer
3573 COADMINISTRATION
979147 CO
4836 ADMINISTER
11 CO(W)ADMINISTER
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? s s1 and s2
2700740 1
3584 S2
S3 2188 1 AND S2
? s s1 and s2
35699 S1
3584 S2
S4 21 S1 AND S2
? t s4/3,ab/all

4/3,AB/1
DIALOG(R)File 155:MEDLINE(R)

11722897 21288443 PMID: 11394199
Rat as model for studying behavior effects of hCG.
Lukacs H
Department of Mental Health of Central Hospital of
Hungarian Army, H-1133 Robert Karoly krt. 44, Budapest,
Hungary.
Semin Reprod Med (United States) 2001, 19 (1)
p111-9, ISSN 1526-8004 Journal Code: DZG
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The demonstration of receptors for luteinizing
hormone (LH)/human chorionic gonadotropin (hCG) in
several parts of rat brain suggested their novel
functional role. Subsequent studies tested the effect
of hCG (intraperitoneally or intracerebroventricularly)
on brain arousal and different types of stress
situations in an intact female rat model on the day of
proestrus. Treatment resulted in changes of activity and
several other behavioral patterns associated with sites
of brain hCG/LH receptors. hCG given peripherally
caused a longer sleeping time and a decreased activity
level. Whereas administration of indomethacin alone had
no effect, *coadministration* inhibited the effects of
hCG. hCG increased immunoreactive prostaglandin D2
(PGD2) and decreased PGE2 in brain areas controlling
activity and sleep. hCG effects were probably mediated
via prostaglandin pathways. After central hCG
treatment, animals were less active and showed less
exploratory behavior in an open-field box than the control
animals. Taste and odor neophobias were dramatically
decreased following central injection of hCG.
hCG-treated rats were less anxious and exhibited a
higher level of maternal interest than the controls.
hCG treatment also had a beneficial effect against
stress ulcer, which was prevented by pretreatment
with antisense receptor oligonucleotide, suggesting a
direct hCG receptor-mediated effect. In summary,
because hCG can cross the blood-brain barrier, both
peripheral administration and central administration
affect several behavioral patterns. This effect is similar
to treatment with anxiolytics and suggests the functional
relevance of brain LH/hCG receptors. Some observed
behavioral changes have parallels in pregnant women.

4/3,AB/2
DIALOG(R)File 155:MEDLINE(R)

11528896 21194961 PMID: 11297880
Effect of human chorionic gonadotrophin
coadministration on ovarian steroidogenic and
folliculogenic activities in cyclophosphamide treated
albino rats.
Ghosh S; Misro M; Das UB; Maiti R; Debnath JM; Ghosh
D

Reproductive Endocrinology and Family Welfare Unit, Department of Human Physiology with Community Health, Vidyasagar University, Midnapore -721 102, West Bengal, India.

Reproductive toxicology (United States) Mar-Apr 2001, 15 (2) p221-5, ISSN 0890-6238 Journal Code: BE4

Languages: ENGLISH

Document type: Journal Article

Record type: Completed

Quantitative evaluation of ovarian Delta5,3beta-hydroxysteroid dehydrogenese (HSD) and 17beta - HSD activities along with radioimmunoassay of plasma levels of *gonadotrophins* (FSH and LH), and estradiol (E2), and quantification of different types of developing follicles and regressive follicles were noted in mature rats of the Wistar strain following treatment with cyclophosphamide at a dose of 5 mg/kg body weight/day for 28 days. A significant reduction in plasma levels of LH and E2 along with significant diminution in the activities of ovarian Delta5,3beta -HSD and 17beta- HSD were observed following cyclophosphamide treatment for 28 days without any change in the plasma level of FSH. This treatment also produced a marked degree of degeneration in different types of follicles. *Coadministration* of hCG at 5 IU/kg body weight/day for 28 days in the cyclophosphamide-treated group provided significant protection except with respect to plasma LH. These results suggest the possibility of an indirect action of cyclophosphamide at the level of the ovary.

4/3,AB/3
DIALOG(R)File 155:MEDLINE(R)

11528895 21194960 PMID: 11297879

Effect of human chorionic gonadotrophin *coadministration* on the activities of ovarian Delta5-3beta-hydroxysteroid dehydrogenase, and 17beta-hydroxysteroid dehydrogenase, and ovarian and uterine histology in lithium chloride-treated albino rats.

Jana D; Nandi D; Maiti RK; Ghosh D

Reproductive Endocrinology and Family Welfare Unit, Department of Human Physiology with Community Health, Vidyasagar University, Midnapore- 721 102, West Bengal, India.

Reproductive toxicology (United States) Mar-Apr 2001, 15 (2) p215-9, ISSN 0890-6238 Journal Code: BE4

Languages: ENGLISH

Document type: Journal Article

Record type: Completed

Lithium chloride, a compound with clinical use in bipolar disorder; produces adverse effects on ovarian function in amphibian and rodent models. This study examined the effect of human chorionic gonadotrophin *coadministration* on ovarian steroidogenic and gametogenic activities in lithium chloride-treated rats. Relative ovarian and uterine weights, ovarian Delta(5)-3beta-hydroxysteroid dehydrogenase and 17beta-hydroxystero id dehydrogenase activities, folliculogenesis, uterine diameter, endometrial and myometrial thickness, and uterine luminal epithelial height were decreased significantly after lithium chloride treatment for 28 days at 1.6 mg/kg/day, the human therapeutic dose. These parameters were unchanged from the control level when subcutaneous (s.c.) human chorionic gonadotrophin (hCG) at 25 microg/kg/day was coadministered with the lithium chloride. The duration of the oestrous cycle was increased in lithium chloride-treated rat with longer metestrous and diestrous phases. Administration of hCG with lithium chloride prevented these estrous cycle alterations. We conclude that hCG can protect ovarian steroidogenic and gametogenic function after lithium chloride treatment.

4/3,AB/4
DIALOG(R)File 155:MEDLINE(R)

11446611 21278242 PMID: 11385593

Protection of sodium arsenite-induced ovarian toxicity by *coadministration* of L-ascorbate (vitamin C) in mature wistar strain rat.

Chattopadhyay S; Ghosh S; Debnath J; Ghosh D

Reproductive Endocrinology & Family Welfare Unit, Dept. of Human Physiology with Community Health, Vidyasagar University, Midnapore-721 102, West Bengal, India.

Archives of environmental contamination and toxicology (United States) Jul 2001, 41 (1) p83-9, ISSN 0090-4341 Journal Code: 6YD Languages: ENGLISH

Document type: Journal Article

Record type: Completed

Arsenic, a major water pollutant in India, produces toxic effects on female reproductive system in rodent models at the dose available in drinking water in arsenic-intoxicated zones. This study examines the *coadministration* of L-ascorbate (vitamin C) on ovarian steroidogenesis, plasma levels of *gonadotrophins*, brain monoamines, and ovarian as well as uterine peroxidase activities in sodium arsenite-treated rats. After sodium arsenite treatment, relative ovarian and uterine weights, ovarian Delta5-3beta-HSD and 17beta-HSD activities, plasma levels of *gonadotrophins*, norepinephrine levels in midbrain and diencephalon, and the activities of peroxidase in ovary and uterus were decreased significantly. On the other hand, serotonin levels in midbrain and diencephalon were increased significantly 28 days after sodium arsenite treatment at the dose of 0.4 ppm/100 g body weight/rat/day. All these parameters were protected significantly and in most

cases were unchanged from control level when L-ascorbate at 25 mg/100 g body weight/rat/day was coadministered orally with sodium arsenite. This cotreatment of L-ascorbate with sodium arsenite also restored the estrous cycle in a regular manner. We concluded that L-ascorbate plays a pivotal role in maintaining normal ovarian activities and brain monoamines in arsenic-treated rats.

4/3,AB/5
DIALOG(R)File 155:MEDLINE(R)

10218082 99371256 PMID: 10443656
Luteinizing hormone activity supplementation enhances follicle-stimulatin g hormone efficacy and improves ovulation induction outcome. Filicori M; Cognigni GE; Taraborrelli S; Spettoli D; Ciampaglia W; de Fatis CT; Pocognoli P
Reproductive Endocrinology Center, University of Bologna, Italy. filicori@med.unibo.it
Journal of clinical endocrinology and metabolism (UNITED STATES) Aug 1999, 84 (8) p2659-63, ISSN 0021-972X Journal Code: HRB Languages: ENGLISH
Document type: Clinical Trial; Journal Article; Randomized Controlled Trial
Record type: Completed
Although FSH is essential to stimulate ovarian folliculogenesis, increasing physiological and clinical evidence suggests that moderate LH stimulation may also be critical for optimal follicle and oocyte development. Conversely, a clinical trend exists toward conducting controlled ovarian hyperstimulation (COH) in a LH-depleted environment, as recently developed gonadotropin preparations are devoid of LH activity, and endogenous LH is suppressed with GnRH analogs in most COH cycles. To investigate the role of LH activity during COH we supplemented highly purified (HP) FSH with low dose hCG in GnRH agonist-suppressed women. Twenty normoovulatory women were pretreated with a GnRH agonist and after 2 weeks were randomly assigned to receive HP FSH (150 IU/day) alone (group A; 10 patients) or combined with hCG (50 IU/day; group B; 10 patients). The HP FSH dose was increased after 14 days only in cases of inadequate response. Treatment was monitored with pelvic ultrasound and daily hormone determinations. None of the patients of group B and 8 of group A required more than 14 days of treatment and increments of the FSH dose. Folliculogenesis and 17beta-estradiol (E2) secretion progressed more rapidly and evenly in group B. Although preovulatory follicle number and E2 concentrations were comparable, patients in group B required a shorter stimulation time (12.5+/-0.6 vs. 17.3+/-0.7 days in group A; P < 0.0001) and a lower HP FSH dose (1725+/-84 vs. 2670+/-164 IU in group A; P < 0.0001). Serum levels of LH, E2, progesterone, and testosterone did not differ between the 2 groups; serum FSH was higher in group A. We conclude that LH activity promotes folliculogenesis in synergy with FSH in the mid- to late follicular phase and that low dose hCG *coadministration* optimizes COH by 1) enhancing FSH action, 2) accelerating ovarian follicle development, 3) shortening COH duration, 4) lowering HP FSH requirements, and 5) reducing COH cost. Thus, moderate LH activity in the follicular phase plays a positive physiological and clinical role in folliculogenesis and ovulation induction.

4/3,AB/6
DIALOG(R)File 155:MEDLINE(R)

10034683 99140935 PMID: 9988406
Effect of troglitazone on endocrine and ovulatory performance in women with insulin resistance-related polycystic ovary syndrome. Hasegawa I; Murakawa H; Suzuki M; Yamamoto Y; Kurabayashi T; Tanaka K
Department of Obstetrics and Gynecology, Niigata University School of Medicine, Japan.
Fertility and sterility (UNITED STATES) Feb 1999, 71 (2) p323-7, ISSN 0015-0282 Journal Code: EVF
Languages: ENGLISH
Document type: Clinical Trial; Journal Article
Record type: Completed
OBJECTIVE: To investigate the effect of troglitazone, a new antidiabetic agent that improves insulin resistance, on endocrine, metabolic, and ovulatory performance in women with insulin resistance-related polycystic ovary syndrome (PCOS). DESIGN: Prospective clinical study. SETTING: Infertility outpatient clinic, Niigata University Hospital, Niigata, Japan. PATIENT(S): Thirteen women with PCOS and insulin resistance. INTERVENTION(S): Troglitazone (400 mg/d) was administered for 12 weeks. MAIN OUTCOME MEASURE(S): Insulin and other hormone (*gonadotropins*, androgens) levels; various parameters relating to glucose and lipid metabolism before, during, and after troglitazone administration; and ovulation rate. RESULT(S): The mean (+/-SD) fasting insulin concentration was significantly reduced, from 18.3+/-8.9 to 10.5+/-7.1 microU/mL. The LH level was reduced from 9.7+/-3.4 to 4.8+/-3.9 mIU/mL and the testosterone level was reduced from 0.9+/-0.5 to 0.5+/-0.3 ng/mL in accordance. Atherosclerotic lipid levels also were normalized. Before troglitazone administration, the ovulation rate during clomiphene citrate therapy was 34.9% per cycle (15/43). This increased significantly to 72.7% (8/11) during troglitazone *coadministration*. Further, an ovulation rate of 42.3% (11/26) was achieved with troglitazone alone. CONCLUSION(S): In women with PCOS and insulin resistance, the reduction of hyperinsulinemia that is

produced by troglitazone improves the hyperandrogenism that characterizes PCOS, restoring ovulation.

4/3,AB/7
DIALOG(R)File 155:MEDLINE(R)

09636450 98070192 PMID: 9408254
Gonadotropin versus steroid regulation of the corpus luteum of the rhesus monkey during simulated early pregnancy.
Duffy DM; Stouffer RL
Division of Reproductive Sciences, Oregon Regional Primate Research Center, Beaverton 97006, USA.
Biology of reproduction (UNITED STATES) Dec 1997, 57 (6) p1451-60, ISSN 0006-3363 Journal Code: A3W
Contract/Grant No.: HD18185, HD, NICHD; HD20869, HD, NICHD; RR00163, RR, NCRR
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
During the nonconceptive cycle in primates, progesterone is a likely intermediary for several LH-dependent events in the ovary including ovulation, luteinization of the follicle wall, and maintenance of the developed corpus luteum. To determine whether progesterone is an important local factor in the ability of chorionic gonadotropin (CG) to enhance luteal structure and function in early pregnancy, rhesus monkeys received hCG in a dose-escalating regimen (15-2880 IU twice daily) beginning on Day 9 of the luteal phase of the natural menstrual cycle to simulate the rapid rise in serum CG levels associated with early pregnancy. Some animals were concomitantly treated with the 3beta-hydroxysteroid dehydrogenase (3beta-HSD) inhibitor trilostane (500 mg twice daily) to suppress progesterone production during gonadotropin stimulation. Corpora lutea were removed after 1, 3, 6, and 9 days of treatment (n = 3-4 per group); time-matched control tissues were obtained from untreated animals (n = 3 per group). Treatment with hCG prevented both the decrease in luteal wet weight ($p < 0.05$) and the histologic indices of luteal regression seen in controls during the menstrual cycle. However, *coadministration* of the progesterone synthesis inhibitor led to early declines in luteal wet weight ($p < 0.05$) and luteal cell size compared to treatment with hCG alone. Luteal progesterone receptor (PR) mRNA content increased ($p < 0.05$), but the percentage of cells staining positive for immunoreactive PR declined ($p < 0.05$) over the treatment interval in all groups. CG administration alone and in combination with trilostane increased PR staining intensity in some luteal cells within 1 day of treatment; intensely staining cells persisted around vascular elements after 9 days of treatment with hCG+trilostane but not with hCG alone. These data suggest that some, but not all, actions of CG to maintain the primate corpus luteum in early pregnancy are mediated by progesterone via a receptor-mediated pathway.

4/3,AB/8
DIALOG(R)File 155:MEDLINE(R)

09026452 96435130 PMID: 8838016
Ovarian steroid hormones regulate granulocyte-macrophage colony-stimulating factor synthesis by uterine epithelial cells in the mouse.
Robertson SA; Mayrhofer G; Seamark RF
Department of Obstetrics and Gynaecology, University of Adelaide, South Australia.
Biology of reproduction (UNITED STATES) Jan 1996, 54 (1) p183-96, ISSN 0006-3363 Journal Code: A3W
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Uterine epithelial cells have been shown by in vitro studies to be a potent source of the inflammatory cytokine granulocyte-macrophage colony-stimulating factor (GM-CSF), and the luminal and glandular epithelium has been confirmed as the predominant site of GM-CSF expression in the intact endometrium by in situ hybridization. To examine the role of ovarian steroid hormones in GM-CSF synthesis, GM-CSF bioactivity has been measured in the supernatants of short-term primary cultures of endometrial cells prepared from mice in which steroid levels were perturbed by ovariectomy and steroid replacement or by steroid antagonists. GM-CSF production was found to fluctuate in cells harvested at different times during the estrous cycle, peaking at estrus. Endometrial cells derived from ovariectomized mice produced 25-fold less GM-CSF than did cells from estrous mice, and production was increased if ovariectomized mice were pretreated with estrogen, but not progesterone, 3 h or more before harvest. This estrogen-induced increase was inhibited by *coadministration* of progesterone or by induction of a decidual response and was blocked by the estrogen antagonist ZK 119,010. By contrast, pretreatment of mice with the anti-progestin RU486 significantly elevated GM-CSF output in cells from ovariectomized mice given estrogen and progesterone in combination and antagonized the inhibition of GM-CSF release seen in cells harvested from mice treated with hCG. These studies demonstrate that GM-CSF synthesis and/or release by uterine epithelial cells is stimulated by estrogen, with progesterone having a moderate inhibitory effect. Analysis of GM-CSF mRNA expression in uterine epithelial cell cultures and in intact uteri from steroid hormone-treated ovariectomized mice by quantitative reverse transcription-polymerase chain

reaction indicated that the effects of estrogen and progesterone on GM-CSF release are mediated at least in part at the transcriptional level. These findings implicate GM-CSF as a local mediator of steroid-driven remodeling events in the cycling and preimplantation endometrium, possibly acting through the recruitment and behavioral regulation of granulocytes and macrophages.

4/3,AB/9
DIALOG(R)File 155:MEDLINE(R)

08612974 95407905 PMID: 7677402
The antireproductive role of corticotropin releasing hormone and interleukin-1 in the female rhesus monkey.
Ferin M
Center for Reproductive Sciences, Columbia University, New York 10032, USA.
Annales d'endocrinologie (FRANCE) 1995, 56 (3) p181-6, ISSN 0003-4266 Journal Code: 540
Contract/Grant No.: DK39144, DK, NIDDK; HD05077, HD, NICHD Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Interleukin-1 alpha (IL-1 alpha) exerts numerous neuroendocrinological and immunological actions. In the ovariectomized (OVX) monkey, intracerebroventricular (icv) infusion of IL-1 alpha stimulates the hypothalamo-pituitary-adrenal (HPA) axis and inhibits pulsatile LH and FSH secretion. This inhibitory effect of IL-1 alpha on the *gonadotropins* is prevented by *coadministration* of corticotropin releasing hormone (CRH) and vasopressin (AVP) antagonists, suggesting a role of these two HPA neuropeptides. In order to understand the central mechanisms by which "stress" interrupts the menstrual cycle, we have also investigated the modulatory role of estradiol. When early follicular phase estradiol concentrations are reproduced, there was a complete prevention of HPA activation and of the consequent inhibition of gonadotropin by IL-1 alpha. The mechanisms regulating this unexpected action remain to be elucidated. In contrast, in the presence of late follicular phase estradiol concentrations, the HPA response to IL-1 alpha is restored, but there is a stimulation of LH release. These data demonstrate interactions between the adrenal and gonadal endocrine axes, and highlight the role of estradiol in modulating these effects.

4/3,AB/10
DIALOG(R)File 155:MEDLINE(R)

08298963 95079226 PMID: 7987667
Administration of human chorionic gonadotropin affects sleep-wake phases and other associated behaviors in cycling female rats.
Toth P; Lukacs H; Hiatt ES; Reid KH; Iyer V; Rao CV
Department of Obstetrics and Gynecology, University of Louisville School of Medicine, KY 40292.
Brain research (NETHERLANDS) Aug 22 1994, 654 (2) p181-90, ISSN 0006-8993 Journal Code: B5L
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
We investigated the possible effects of human chorionic gonadotropin (hCG) on sleep-wake phases and other associated behaviors controlled by the medial preoptic area, cerebral cortex and hippocampus. Chronic epidural electroencephalographic (EEG) and temporal muscle electromyographic (EMG) electrodes were placed in cycling female rats. After a week of recovery, rats were injected intraperitoneally at 3.00 pm on the day of proestrus with either saline or highly purified hCG or indomethacin or hCG plus indomethacin. Three hours after injection, EEG, EMG and behavioral activities were recorded for 3.5 h. The administration of hCG increased high and low amplitude sleep, resting phase and decreased active awake phase, walking, sniffing and chewing as compared to the controls. While the administration of indomethacin alone had no effect, *coadministration* inhibited hCG effects. Medial preoptic area, cerebral cortex and hippocampus contain immunostaining for LH/hCG receptors. The administration of hCG resulted in an increase of immunoreactive PGD2 and a decrease of PGE2 in median preoptic area, cerebral cortex and hippocampus as compared to the controls. In summary, hCG administration affects sleep-wake phases and other associated behaviors in rats which can collectively be described as decreased activity. These effects are probably mediated by increasing PGD2 and decreasing PGE2 in areas of brain which control these activities. The above findings may be relevant to pregnant women who experience decreased activity when hCG is present in the circulation and cerebrospinal fluid.

4/3,AB/11
DIALOG(R)File 155:MEDLINE(R)

08034828 93250173 PMID: 8387350
Severe leukocyte depletion does not affect follicular rupture in the rat. Chun SY; Daphna-Iken D; Calman D; Tsafriri A
Department of Hormone Research, Bernhard Zondek Hormone Research Laboratory, Weizmann Institute of Science, Rehovot, Israel. Biology of reproduction (UNITED STATES) Apr 1993, 48 (4) p905-9, ISSN 0006-3363 Journal Code: A3W
Languages: ENGLISH

Document type: Journal Article
Record type: Completed
This study was initiated in order to examine the involvement of leukocytes in follicular rupture in the rat. To evaluate changes in ovarian neutrophil population, ovaries from eCG-primed (15 IU s.c. on Days 25-26) rats were collected 0, 3, 6, and 9 h after hCG (4 IU) administration, and ovarian content of neutrophils was estimated by assaying myeloperoxidase (MPO) activity. The stimulation of hCG increased ovarian MPO activity within 6 h ($p < 0.01$). *Coadministration* of inhibitors of eicosanoid synthesis into the ovarian bursa (0.5 mg/bursa) markedly augmented the action of hCG on ovarian MPO activity ($p < 0.0001$). To examine the possible participation of leukocytes in the process of follicular rupture, peripheral leukocytes were depleted by a single i.v. injection of vinblastine sulfate or cyclophosphamide 4 days before hCG treatment. In spite of a severe depletion in the number of circulating neutrophils or total leukocytes, ovulation rate remained normal. The hCG-stimulated increase in ovarian MPO activity reflects influx of neutrophils into the ovaries during the periovulatory period, and inhibitors of eicosanoid synthesis, which suppress ovulation, further enhance this increase. Nevertheless, the periovulatory rise in ovarian neutrophil content does not seem to be obligatory for follicular rupture. Thus, inhibitors of eicosanoid synthesis block ovulation in the face of an increase in ovarian neutrophil content. Likewise, severe depletion of peripheral neutrophil or total leukocyte counts did not prevent ovulation. The observed influx of neutrophils into the ovary seems to be a consequence of vascular changes associated with the ovulatory response, rather than an obligatory requirement for follicular rupture.

4/3,AB/12
DIALOG(R)File 155:MEDLINE(R)

07482455 92098650 PMID: 1757512
Stress-related hormones affect human chorionic gonadotrophin secretion from the early human placenta in vitro.
Tal J; Kaplan M; Sharf M; Barnea ER
Feto-Placental Endocrine Unit, Rappaport Institute, Technion, Israel. Human reproduction (ENGLAND) Jul 1991, 6 (6) p766-9, ISSN 0268-1161 Journal Code: HRP
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The effect of a physiological range of concentrations of three stress-related hormones, oxytocin (OT), arginine-vasopressin (AVP) and prolactin (PRL) was tested upon human chorionic gonadotrophin (HCG) secretion by placental explants from early pregnancy in static and superfusion cultures. In static cultures, OT and AVP significantly increased HCG secretion, whereas PRL had no effect. In superfusion, 1-min pulses of OT induced a significant (two- to 10-fold) rise in HCG pulse amplitude compared to the control. This effect of this neuropeptide was blocked by *coadministration* of a specific receptor antagonist. AVP also increased the glycoprotein pulse amplitude by two- to five-fold, but only with every second pulse administered. PRL pulses caused a progressive inhibition of spontaneous HCG pulsatility. In conclusion, stress-related hormones affect placental HCG secretion in vitro. The involvement of these factors in impairing early pregnancy development is suggested.

4/3,AB/13
DIALOG(R)File 155:MEDLINE(R)

07450432 91372427 PMID: 1894021
Suppression of corpus luteum function by the gonadotropin-releasing hormone antagonist Nal-Glu: effect of the dose and timing of human chorionic gonadotropin administration.
Dubourdieu S; Charbonnel B; Massai MR; Marraoui J; Spitz I; Bouchard P Clinique Endocrinologique, Hotel-Dieu, Nantes, France.
Fertility and sterility (UNITED STATES) Sep 1991, 56 (3) p440-5, ISSN 0015-0282 Journal Code: EVF
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
OBJECTIVE: To assess the effect of gonadotropin-releasing hormone antagonist Nal-Glu administration in the luteal phase and the potential rescue by exogenous human chorionic gonadotropin (hCG) of corpus luteum (CL) after antagonist treatment. DESIGN: We studied the dose of Nal-Glu required for luteolysis and subsequently we coadministered low doses of hCG for 3 consecutive days either simultaneously to Nal-Glu administration (n = 5), or 48 (n = 5), or 72 hours (n = 5) later. Six additional participants received pharmacological doses of hCG 48 hours after the luteolytic dose of Nal-Glu. SETTING: Participants were studied in Clinique Endocrinologique, Nantes, and in Service d'Endocrinologie, Hopital Bicetre, Le Kremlin Bicetre, France. PARTICIPANTS: Twenty-nine normal young women (ages 20 to 35) were studied. INTERVENTIONS: None. MAIN OUTCOME MEASURE: Measurements of follicle-stimulating hormone, luteinizing hormone (LH), estradiol, Progesterone (P) levels were performed by radioimmunoassay before, during, and after the various treatment regimens. RESULTS: Complete luteolysis occurred in women who received 10 mg of Nal-Glu daily on days 4 and 5 after the LH surge. The *coadministration* of Nal-Glu and hCG overrode the effect of the antagonist (P = 48.8 +/- 22.5

versus 60.8 +/- 3.1 nmol/L in controls treated with hCG alone [NS]). When hCG treatment was started 48 hours after Nal-Glu, a partial luteolysis occurred (P = 33.8 +/- 10.9 versus 117 +/- 12.9 nmol/L, P less than 0.01). When hCG was started 72 hours after Nal-Glu, a complete luteolysis occurred (P = 5.8 +/- 2.05 versus 36.2 +/- 0.6 nmol/L, P less than 0.01). Higher doses of hCG (1,500 or 5,000 IU) administered 72 hours after Nal-Glu resulted in a significant rescue of CL function (P = 37.7 +/- 4.8 and P = 43.8 +/- 22.2 versus 74.5 +/- 19.8 and 130.2 +/- 14.3 nmol/L, P less than 0.05), respectively. CONCLUSIONS: These results confirm the LH dependence of CL function. The suppression of CL LH support for 72 hours induced a compromise of the CL nonreversible by low doses of hCG mimicking early pregnancy but reversible with pharmacological doses.

4/3,AB/14
DIALOG(R)File 155:MEDLINE(R)

07431910 91154711 PMID: 1900320
Comparison of the luteolytic action of gonadotrophin-releasing hormone antagonist and cloprostenol, and the ability of human chorionic gonadotrophin and melatonin to override their luteolytic effects in the marmoset monkey.
Webley GE; Hodges JK; Given A; Hearn JP
MRC/AFRC Comparative Physiology Group, Institute of Zoology, London. Journal of endocrinology (ENGLAND) Jan 1991, 128 (1) p121-9, ISSN 0022-0795 Journal Code: I1J
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The effects of the luteolytic and luteotrophic agents cloprostenol, human chorionic gonadotrophin (hCG) and melatonin on the corpus luteum have been investigated in marmoset monkeys treated with an LHRH antagonist to reduce endogenous LH secretion. This has allowed the effects of these agents to be investigated in the absence of the principal endogenous luteotrophin. Administration of the LHRH antagonist ([N-acetyl-D beta Nal1-D-pCl-Phe2-D-Phe3-D-Arg6-Phe7-Arg8-D-Ala10]NH2-LHRH) or cloprostenol between days 7 and 11 after ovulation (preimplantation) resulted in luteolysis. A significant (P less than 0.05) decrease in progesterone concentrations had occurred by 4 h after administration of the LHRH antagonist and was indeed preceded by a fall in LH concentrations. *Coadministration* of hCG with the LHRH antagonist prevented the fall in progesterone. In contrast, administration of cloprostenol resulted in an immediate fall in progesterone concentrations, to less than half the initial level within 1 h, and co-administration with hCG did not prevent the fall. Administration of hCG stimulated progesterone production when given 8 h after the LHRH antagonist but not after 24 h. Cloprostenol prevented the stimulation by hCG. Co-administration of melatonin with the LHRH antagonist did not prevent the decrease in progesterone concentrations. Melatonin was also not effective in preventing the fall in progesterone induced by cloprostenol. However, co-administration of melatonin and cloprostenol between days 17 and 21 after ovulation (post-implantation) significantly (P less than 0.05) delayed the fall in progesterone seen with cloprostenol alone. These results suggest that while the LHRH antagonist and cloprostenol have different sites of action their effect is similar at the corpus luteum, that is in depriving the corpus luteum of luteotrophic support. The results also suggest that melatonin may be able to influence the luteolytic action of cloprostenol but that its effect varies with the stage of the cycle. The physiological role for such an action, if any, remains unknown.

4/3,AB/15
DIALOG(R)File 155:MEDLINE(R)

07315867 90293585 PMID: 2113562
Ovarian suppression with leuprolide acetate: comparison of luteal, follicular, and flare-up administration in controlled ovarian hyperstimulation for oocyte retrieval.
Gindoff PR; Hall JL; Stillman RJ
Department of Obstetrics & Gynecology, George Washington University Medical Center, Washington, DC 20037.
Journal of in vitro fertilization and embryo transfer (UNITED STATES) Apr 1990, 7 (2) p94-7, ISSN 0740-7769 Journal Code: IRF Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Adjunct use of leuprolide (LA) in patients undergoing controlled ovarian hyperstimulation with human menopausal *gonadotropins* (hMG) was evaluated by three protocols: Group F (n = 24) began LA on day 2 of the cycle and Group L (n = 38) began LA on day 23 of the cycle until ovarian suppression, at which time hMG was added. Group FL (n = 17) began LA on day 1 and hMG on day 3. Compared to FL, more ova were collected, more ova fertilized, and more pregnancies resulted per initiated cycle in groups achieving suppression before hMG stimulation. Fewer days were necessary to attain suppression for L vs F. After achieving suppression, patients were maintained on either 0.5 mg LA or 0.25 mg LA daily during hMG *coadministration* with similar results. Lower maintenance doses of LA during hMG did not decrease the amount of hMG needed but

retained the benefits of LA. We recommend luteal initiation of LA to achieve suppression before hMG.

4/3,AB/16
DIALOG(R)File 155:MEDLINE(R)

06851262 92042576 PMID: 1682338
The effect of dynorphin on placental pulsatile human chorionic gonadotropin secretion in vitro.
Barnea ER; Ashkenazy R; Sarne Y
Feto-Placental Unit, Rappaport Institute, Technion, Haifa, Israel. Journal of clinical endocrinology and metabolism (UNITED STATES) Nov 1991, 73 (5) p1093-8, ISSN 0021-972X Journal Code: HRB
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Using in vitro methods we have studied the effect of dynorphin (DYN) a natural k opioid receptor ligand upon hCG secretion in the first trimester placenta. In superfusion, where we have recently reported that hCG secretion is episodic, we found that the addition of 1-min pulses of DYN had a significant stimulatory effect upon pulsatile hCG secretion. This effect was seen at concentrations of 10(-8) mol/L-10(-11) mol/L. Higher doses (10(-6) mol/L) and lower doses (10(-12) mol/L) were ineffective. A 10-min administration was more effective than the 1-min pulses. Prolonged administration (90 min) caused an initial increase in pulsatile hCG secretion which was followed by a decrease to control values. However, upon stopping the prolonged opiate administration there was a substantial increase in hCG secretion. The involvement of opioid receptors in mediating the effect of DYN on hCG release was demonstrated by using naloxone, an opioid receptor antagonist. *Coadministration* of DYN, 10(-11) mol/L, and naloxone, 10(-10) mol/L, reduced markedly the effect of DYN. This was followed by a delayed increase in hCG secretion. Furthermore, des-tyrosine-DYN, the nonopioid derivative of DYN was 1000 times less potent in stimulating hCG release than DYN. The involvement of DYN in physiological control of placental hCG secretion is suggested.

4/3,AB/17
DIALOG(R)File 155:MEDLINE(R)

05992404 86220007 PMID: 3709446
Aspects of the testicular toxicity of phthalate esters.
Gray TJ; Gangolli SD
Environmental health perspectives (UNITED STATES) Mar 1986, 65 p229-35, ISSN 0091-6765 Journal Code: EI0
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Di(2-ethylhexyl) phthalate (DEHP) produced seminiferous tubular atrophy and reductions in seminal vesicle and prostate weight in 4-week-old, but not in 15-week-old rats. Di-n-pentyl phthalate (DPP) did produce atrophy in the older rats but this developed more slowly than in young animals. *Coadministration* of testosterone or *gonadotrophins* did not protect against phthalate-induced testicular toxicity but did partly reverse the depression of seminal vesicle and prostate weight. Secretion of seminiferous tubule fluid and androgen binding protein by the Sertoli cells was markedly suppressed within 1 hr of a dose of DPP or mono-2-ethylhexyl phthalate (MEHP) in immature rats. This occurred less rapidly in mature rats. [14C]Mono-n-pentyl phthalate and [14C]MEHP penetrated the blood testis barrier only to a very limited extent. These findings and the early morphological changes in the Sertoli cells produced by DPP suggest that phthalate esters may act initially to cause Sertoli cell injury, the subsequent loss of germ cells occurring as a consequence of this. Some features of the testicular lesion could be reproduced in primary cocultures of rat Sertoli and germ cells. Structure activity studies with a range of phthalate monoesters showed good agreement between the induction of germ cell detachment in culture and testicular toxicity in vivo. Three metabolites of MEHP (metabolites V, VI, and IX) were much less toxic in culture than MEHP itself, suggesting that the latter may be the active testicular toxin from DEHP.

4/3,AB/18
DIALOG(R)File 155:MEDLINE(R)

05642824 88082462 PMID: 3121284
Induction of precocious maturation of spermatogenesis in infant rats by human menopausal gonadotropin and inhibition by simultaneous administration of *gonadotropins* and testosterone.
Kula K
Institute of Endocrinology, Medical Academy of Lodz, Poland. Endocrinology (UNITED STATES) Jan 1988, 122 (1) p34-9, ISSN 0013-7227 Journal Code: EGZ
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
This study was undertaken to determine if the initiation of spermatogenesis could be modified by the administration of *gonadotropins* and sex hormones in infant rats. Five-day-old rats were injected daily between the 5th and 11th days of life with test substances and killed on day 15. Administration of testosterone propionate (TP; 2.5 mg daily), human menopausal gonadotropin (hMG; 7.5 IU daily), or

coadministration of both of these substances (TP + hMG) or administration of estradiol benzoate (15 micrograms daily) caused quantitative changes in premeiotic spermatogenesis, as measured by the mean cell counts per tubule cross-section. hMG caused an increased yield of type A1 spermatogonia (SgA1) from undifferentiated type A spermatogonia (UnA) and increased the yield of type B spermatogonia from SgA1. TP was not effective in stimulating first premeiotic spermatogenesis, and in contrast to hMG, it had a negative influence on the numbers of UnA and SgA1 and on the volume of Sertoli cell nucleus. Administration of TP + hMG or estradiol benzoate resulted in a significant increase in the numbers of UnA and SgA1, but inhibited cell differentiation. TP + hMG significantly reduced the rate of premeiotic spermatogenesis. The results demonstrate that precocious numerical stabilization of premeiotic spermatogenesis can be achieved by the application of hMG. TP applied alone was able to induce peripheral androgenic effects (seminal vesicle weight) 100% greater than those produced by administration of hMG, but was not able to stimulate seminal tubule function. TP applied together with hMG produced inhibition of spermatogenesis. This effect might be due to the inhibition of Sertoli cell function by the direct influence of testosterone. In contrast to testosterone, estradiol may play a stimulatory role in the multiplication of the reserve stem cells of the first spermatogenesis of the rat.

4/3,AB/19
DIALOG(R)File 155:MEDLINE(R)

05185017 88154043 PMID: 3346359
Clomiphene citrate attenuates hyperprolactinemia associated with ovarian hyperstimulation in the primate menstrual cycle.
Simon JA; Gianfortoni JG; Hodgen GD
Jones Institute for Reproductive Medicine, Department of Obstetrics and Gynecology, Eastern Virginia Medical School.
Journal of clinical endocrinology and metabolism (UNITED STATES) Apr 1988, 66 (4) p811-4, ISSN 0021-972X Journal Code: HRB Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Exogenous human menopausal gonadotropin (hMG) therapy produces transient hyperprolactinemia during ovulation induction or ovarian hyperstimulation for in vitro fertilization, and hyperprolactinemia has been linked to decreased fertility. *Coadministration* of clomiphene citrate (CC) with hMG is often used to decrease the total amount of hMG used in such patients, but whether this results in less hyperprolactinemia is not known. As the hyperprolactinemia in this setting is a threshold phenomenon dependent on the strength and duration of estrogen exposure, we investigated whether CC acted as an estrogen to enhance PRL secretion or as an antiestrogen deterring estradiol (E2)- and progesterone (P4)-induced hyperprolactinemia in nonhuman primates. Normally cycling (control) monkeys (n = 4) received E2 benzoate (12.5 micrograms/kg, im, daily) on menstrual cycle days 6-33 and continuous crystalline P4 via Silastic implants on days 20-33, a regimen known to initiate hyperprolactinemia. Treated monkeys (n = 5) received the same regimen, except that oral CC (15 mg daily) was given on days 6-33. Daily serum samples were assayed for E2, P4, and PRL. Both treatments caused significant (P less than 0.05) increases in serum PRL concentrations during P4 administration. The CC-treated monkeys had significantly smaller increases in mean PRL [21 +/- 1.5 (+/- SEM) vs. 44 +/- 6.3 ng/mL (micrograms/L); P less than 0.05] and smaller mean area under the PRL response curve [288 +/- 35 (+/- SEM) vs. 588 +/- 121 ng/day.mL (micrograms/day.L); P less than 0.05] than the control monkeys. We conclude that CC attenuates the hyperprolactinemia response to E2/P4 synergy in monkeys by acting as an antiestrogen. If coadministered with hMG for ovulation induction or ovarian hyperstimulation for in vitro fertilization, CC should attenuate hMG-induced hyperprolactinemia, thereby reducing its potentially adverse effects on fertility.

4/3,AB/20
DIALOG(R)File 155:MEDLINE(R)

05147291 86303951 PMID: 3528106
Heterogeneity of sperm density profiles following 16-week therapy with continuous infusion of high-dose LHRH analog plus testosterone. Pavlou SN; Interlandi JW; Wakefield G; Rivier J; Vale W; Rabin D Journal of andrology (UNITED STATES) Jul-Aug 1986, 7 (4) p228-33, ISSN 0196-3635 Journal Code: HB4
Contract/Grant No.: 5-M01-RR-95, RR, NCRR; HD-05797, HD, NICHD; RO1-HD-16453, HD, NICHD
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
LHRH agonist analogs have been investigated as potential male contraceptives. It has been shown that the LHRH agonistic analog [D-Trp6,Pro9-NEt] LHRH (LHRHA) given to men in single doses up to 500 micrograms daily for up to 20 weeks with the *coadministration* of testosterone enanthate produces reversible oligozoospermia. Individual responses to the treatment, however, were variable. In this study, we gave the same analog to eight normal male volunteers as a continuous infusion of 500 micrograms daily for 16 weeks. Testosterone enanthate, 100 mg, was given by

injection every second week. Six of the subjects became oligozoospermic but the other two retained sperm counts that were greater than 20 million/ml, although their treatment continued for 20 weeks. The reasons for this variability of response are not clear. Serum immunoreactive LH values increased during the infusion period whereas testosterone declined. FSH values fell during treatment in all subjects except the two non-responders. The acute pituitary response to LHRHA during the treatment or shortly thereafter (48 h) was completely abolished, and bioactive LH values were suppressed totally. FSH, LH, testosterone and sperm counts returned to normal in all subjects following discontinuation of LHRHA infusion. Continuous infusion of 500 micrograms of LHRHA daily for 16 weeks with 100 mg of testosterone enanthate every 2 weeks induced desensitization of the pituitary, loss of LH bioactivity, and decreases of FSH and testosterone. This mode of administration, however, did not improve sperm density results obtained earlier by single daily injections of the analog. Heterogeneity of sperm density profiles still persists for reasons that are not yet clear.

4/3,AB/21
DIALOG(R)File 155:MEDLINE(R)

04946856 85257130 PMID: 4017944
Metabolism of high density lipoproteins reconstituted with [3H]cholesteryl ester and [14C]cholesterol in the rat, with special reference to the ovary.
Nestler JE; Bamberger M; Rothblat GH; Strauss JF
Endocrinology (UNITED STATES) Aug 1985, 117 (2) p502-10, ISSN 0013-7227 Journal Code: EGZ
Contract/Grant No.: AM-07314, AM, NIADDK; HD-06274, HD, NICHD; HL-22633, HL, NHLBI; +
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
In order to study the metabolism of high density lipoprotein (HDL)-carried sterol in the rat, human HDL was reconstituted with [14C]cholesterol and [3H]cholesteryl ester. After iv injection into immature PMSG-human CG primed rats pretreated with 4-aminopyrazolopyrimidine and aminoglutethimide, there was time-dependent accumulation of 3H and 14C in various organs which reached a maximum by 15-90 min. On a milligram wet weight basis, uptake of 3H and 14C was greatest in the adrenals, next in ovaries, followed by the liver, with little uptake by kidneys and spleen. On an organ basis, accumulation was greatest by the liver. At 15-45 min post injection, 60% of the 3H in the ovary was in free sterol, indicating hydrolysis of the accumulated cholesteryl esters, whereas 95% of the 3H in serum remained in sterol esters associated with HDL. *Coadministration* of excess unlabeled HDL, but not human low density lipoprotein, reduced accumulation of radioactivity by the ovaries and adrenals by 60%, indicating a specific and saturable uptake process. Granulosa cells cultured in lipoprotein-deficient medium with reconstituted HDL formed 3H- and 14C-labeled 20 alpha-hydroxypregn-4-en-3-one. Over a 24-h period, utilization of both [14C]cholesterol and [3H]cholesteryl ester was linear, but rates of utilization of the two sterol moieties were not parallel. There was preferential uptake and utilization of free sterol. A dose-response study demonstrated a Michaelis-Menten constant (Km) of 40-60 micrograms sterol/ml for both free and esterified cholesterol. Lysosomotropic agents (chloroquine and NH4Cl) had no effect on utilization of either free or esterified cholesterol for steroidogenesis but reduced degradation of 125I-labeled low density lipoprotein apoprotein. These findings lend further support to the concept of a distinct HDL pathway in steroidogenic cells of the rat, which involves 1) preferential uptake and utilization of free cholesterol from HDL and 2) does not require lysosomal activity. ? s administ? 5n (fsh and lh)
0 ADMINIST? 5N (FSH
0 LH)
S5 0 ADMINIST? 5N (FSH AND LH)
? s fsh and lh/ti
30121 FSH
6702 LH/TI
S6 2551 FSH AND LH/TI
? s s6 and administ?/ti
2551 S6
82834 ADMINIST?/TI
S7 161 S6 AND ADMINIST?/TI
? s s7 and py>1998
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1465955 PY>1998
S8 3 S7 AND PY>1998
? s s7 not s8
161 S7
3 S8
S9 158 S7 NOT S8
? t s9/free/1-10
Set Items Description
S1 35699 GONADOTROPINS OR GONADOTROPHINS OR GONADOTROPIC()HORMONE?
S2 3584 COADMINISTRATION OR CO()ADMINISTER
S3 2188 1 AND S2
S4 21 S1 AND S2
S5 0 ADMINIST? 5N (FSH AND LH)
S6 2551 FSH AND LH/TI
S7 161 S6 AND ADMINIST?/TI
S8 3 S7 AND PY>1998
S9 158 S7 NOT S8

? fsh/ti and lh/ti
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? s fsh/ti and lh/ti
3229 FSH/TI
6702 LH/TI
S10 1697 FSH/TI AND LH/TI
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1697 S10
82834 ADMINIST?/TI
S11 91 S10 AND ADMINIST?/TI
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S12 0 S11 AND PY>1998
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? t s11/3,ab/3,16,34

11/3,AB/3
DIALOG(R)File 155:MEDLINE(R)

07995377 94120962 PMID: 8291453
Measurement of serum levels of exogenously *administered* *FSH* and *LH* during ovulation induction therapy.
Mallya S; Abdulla UA; Davis JC
Department of Endocrine Pathology, Fazakerley Hospital, Liverpool, UK. Gynecological endocrinology (ENGLAND) Sep 1993, 7 (3) p167-71, ISSN 0951-3590 Journal Code: 125
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
We conducted a prospective study of blood levels of follicle stimulating hormone (FSH) and luteinizing hormone (LH) following daily intramuscular injection of human menopausal gonadotropin (hMG) containing equal proportions of FSH and LH. Blood samples were collected on alternate days and the resulting changes in the blood levels of the ovarian hormone estradiol were also monitored. Twenty-eight consecutive patients with polycystic ovary syndrome who were between the ages of 25 and 35 years and attending our infertility clinic for ovulation induction therapy and assisted pregnancy were studied. Polycystic ovary syndrome was diagnosed on laparoscopy and as evidenced by high serum LH which was three times greater than FSH in the follicular phase of the menstrual cycle. A male factor for infertility was excluded. Twenty-five out of 28 women (89.3%) receiving hMG responded to therapy by a rise in serum estradiol level (> 1200 pmol/l on day 9). Of the 25 women who responded to hMG, four had live single babies (16%). All four women showed a cumulative rise in mean serum FSH with treatment when measured by standard radioimmunoassay, reaching statistical significance on day 5 ($p < 0.05$). The remaining 21 who failed to become pregnant showed variable changes in mean serum FSH with a sharp rise on day 3 ($p < 0.02$) and a significant fall on day 7 ($p < 0.02$). However, mean serum LH measured by standard radioimmunoassay in all women remained unchanged throughout the period of treatment.(ABSTRACT TRUNCATED AT 250 WORDS)

11/3,AB/16
DIALOG(R)File 155:MEDLINE(R)

05453335 90101934 PMID: 2513704
Effect of gonadotropin (*FSH* + *LH*) and thyrotropin (TSH) *administered* with or without endotoxin at the age of three weeks on the response capacity of the thyroid gland in adult rats.
Csaba G; Nagy SU
Department of Biology, Semmelweis University Medical School, Budapest, Hungary.
Acta physiologica Hungarica (HUNGARY) 1989, 74 (2) p115-20, ISSN 0231-424X Journal Code: 1RS
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
At the age of three weeks the experimental animals received either thyrotropin (TSH), or gonadotropin (FSH + LH), or endotoxin (LPS) alone or in combination. The effectivity of the treatments was evaluated at the age of two months (with or without further hormone treatment). Contrastingly to neonatal TSH treatment, TSH treatment at the age of three weeks did not give rise to imprinting. In female animals, however, TSH treatment increased the sensitivity to the related gonadotropin hormone. At the age of three weeks gonadotropin treatment--on its own--did not cause damages to the TSH receptors of the thyroid gland. While in previous experiments neonatal endotoxin treatment damaged considerably the thyroxin production of the adult thyroid gland, after treatments at the age of three weeks no similar effect could be observed. The treatment, however, decreased the sensitivity of the receptors to TSH. In female animals simultaneous administration of endotoxin and TSH led, even without further hormone treatment, to constant increase in T4 level (the increase could also be detected in the adult animal). Imprinting, however, did not develop. In male animals simultaneous administration of endotoxin and gonadotroph hormone decreased considerably the T4 baseline level, and further TSH or gonadotropin treatment was unable to enhance T4 production.

11/3,AB/34
DIALOG(R)File 155:MEDLINE(R)

03129646 79060316 PMID: 717814
Effects of *FSH* and *LH* *administration* on the

testes and seminal vesicles.
Bentley MJ; Gass GH; Leidl W
Andrologia (GERMANY, WEST) Sep-Oct 1978, 10 (5) p357-61, ISSN 0303-4569 Journal Code: 4QP
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Weight increases in the testes of pre-pubertal rodents when FSH was administered were revealed by histological observations to be a result of seminiferous tubule lengthening. LH administration effected a sex accessory gland weight increase (seminal vesicles) but there were no apparent testicular effects. The serum androgen level, in response to increased LH administration, showed a continuous decrease in concentration although there was a significant seminal vesicle weight increase. The evidence presented in this paper leads us to postulate that LH has a sensitizing effect on androgen dependent tissues in the pre-pubertal rodent. ? s human()menopausal()gonadotropin or hmg
7506534 HUMAN
8830 MENOPAUSAL
23573 GONADOTROPIN
906 HUMAN(W)MENOPAUSAL(W)GONADOTROPIN
6805 HMG
S13 7195 HUMAN()MENOPAUSAL()GONADOTROPIN OR HMG
? s s13 and (lh and fsh)
7195 S13
46079 LH
30121 FSH
S14 515 S13 AND (LH AND FSH)
? s s13/ti
S15 1902 S13/TI
? s s15 and s14
1902 S15
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S16 135 S15 AND S14
? s s16 and py>1998
135 S16
1465955 PY>1998
S17 6 S16 AND PY>1998
? s s16 not s17
135 S16
6 S17
S18 129 S16 NOT S17
? s s18 and (lh and fsh)/ab
129 S18
28032 LH/AB
17394 FSH/AB
S19 59 S18 AND (LH AND FSH)/AB
? t s19/ti/all

? t s19/3,ab/all

19/3,AB/1
DIALOG(R)File 155:MEDLINE(R)

09882979 98429406 PMID: 9758439
Pulsatile GnRH or human chorionic gonadotropin/*human* *menopausal* *gonadotropin* as effective treatment for men with hypogonadotropic hypogonadism: a review of 42 cases.
Buchter D; Behre HM; Kliesch S; Nieschlag E
Institute of Reproductive Medicine of the University, Munster, Germany. European journal of endocrinology (ENGLAND) Sep 1998, 139 (3) p298-303, ISSN 0804-4643 Journal Code: BXU
Languages: ENGLISH
Document type: Clinical Trial; Journal Article
Record type: Completed
Stimulatory therapy with either GnRH or gonadotropins is an effective treatment to induce spermatogenesis and achieve paternity in men with secondary hypogonadism. However, there is still uncertainty about the optimal treatment modality and schedule, the duration of treatment necessary and the influence of interfering factors such as maldescended testes. We have extended our previous series of men treated for secondary hypogonadism and now present our therapeutic experience with 42 cases. Twenty-one patients with hypothalamic disorders (11 with idiopathic hypogonadotropic hypogonadism (IHH) and 10 with Kallmann syndrome (KalS)) were treated with GnRH (group Ia) or human chorionic gonadotropin (hCG)/ *human* *menopausal* *gonadotropin* (*hMG*) (group Ib), and 21 patients with hypopituitarism (group II) were treated with hCG/*hMG* . A total of 5 7 treatment courses were initiated for induction of spermatogenesis, 36 of these for the purpose of induction of pregnancy in the female partner. Bilateral testicular volumes doubled within 5-12 months of therapy. Spermatogenesis as evidenced by the appearance of sperm in the ejaculate was induced in 54/57 courses. Pregnancies occurred in 26/36 courses. Unilaterally maldescended testes did not preclude patients with IHH or KalS from gaining fertility under therapy and spermatogenesis could be successfully initiated even in some individuals with bilateral maldescended testes. In general there was a tendency for a longer duration of therapy until induction of spermatogenesis in patients with a history of bilateral cryptorchidism. However, this did not reach statistical significance. In patients with IHH or KalS treated with either hCG/ *hMG* or GnRH there were no statistically significant differences in terms of duration to appearance of sperm or pregnancy rates. Even in KalS patients as old as 43 years spermatogenesis could be induced. In repeatedly treated patients stimulation of spermatogenesis tended to be faster while time until induction of pregnancy was significantly shorter in the second treatment course. In conclusion, GnRH or

hCG/*hMG* are effective therapeutic modalities for patients with IHH or KalS. It remains to be determined whether highly purified urinary gonadotropin preparations or recombinant *LH* and *FSH* will provide therapeutic advantages.

19/3,AB/2
DIALOG(R)File 155:MEDLINE(R)

09866881 98340161 PMID: 9675561
Efficacy assessment of highly purified follicle-stimulating hormone alone or in combination with *human* *menopausal* *gonadotropin* during pituitary suppression in patients undergoing GIFT for unexplained infertility.
Campo S; Garcea N
Department of Obstetrics and Gynecology, Catholic University of the Sacred Heart, Rome, Italy.
Gynecological endocrinology (ENGLAND) Jun 1998, 12 (3) p161-6, ISSN 0951-3590 Journal Code: 125
Languages: ENGLISH
Document type: Clinical Trial; Journal Article; Randomized Controlled Trial
Record type: Completed
The purpose of this study was to compare the efficacy of highly purified follicle-stimulating hormone (*FSH*-HP) alone versus the combination of *FSH*-HP + *human* *menopausal* *gonadotropin* (*hMG*) treatment during pituitary suppression with gonadotropin-releasing hormone (GnRH) analog on the clinical outcome and endocrine parameters in 120 randomized women undergoing gamete intra-Fallopian transfer (GIFT) for unexplained infertility. Our data did not show any significant difference between the two groups as regards dose of administered gonadotropins, duration of treatment, estradiol 17 beta 17 beta increase curves, number of follicles > 16 mm, number of recruited and transferred oocytes, and endometrial thickness. The percentages of clinical pregnancies (33.3% with *FSH*-HP and 31.6% with *FSH*-HP + *hMG*), of miscarriages and twin gestations were also similar in the two groups. It is concluded that, during GnRH analog suppression, *FSH*-HP treatment alone is effective in inducing normal follicular steroidogenesis and adequate oocyte maturation, but no detrimental effect of luteinizing hormone (*LH*) activity of *hMG* on the outcome of the outcome of ovarian stimulation was found.

19/3,AB/3
DIALOG(R)File 155:MEDLINE(R)

09828838 98359424 PMID: 9696235
The luteal phase of nonsupplemented cycles after ovarian superovulation with *human* *menopausal* *gonadotropin* and the gonadotropin-releasing hormone antagonist Cetrorelix.
Albano C; Grimbizis G; Smitz J; Riethmuller-Winzen H; Reissmann T; Van Steirteghem A; Devroey P
Centre for Reproductive Medicine, Dutch-speaking Brussels Free University, Belgium. LRIAAOC@AZ.VUB.AC.BE
Fertility and sterility (UNITED STATES) Aug 1998, 70 (2) p357-9, ISSN 0015-0282 Journal Code: EVF
Languages: ENGLISH
Document type: Clinical Trial; Journal Article
Record type: Completed
OBJECTIVE: To analyze the luteal phase of six patients undergoing controlled ovarian hyperstimulation (COH) with *hMG* and a new GnRH antagonist, Cetrorelix, without receiving luteal phase supplementation. DESIGN: Phase II study involving the first six patients who did not receive luteal phase support. SETTING: Tertiary referral center. PATIENT(S): Six healthy women undergoing COH for assisted reproductive techniques. INTERVENTION(S): Oocyte retrieval was performed 36 hours after hCG administration, followed by embryo transfer 2 days later. No luteal phase supplementation was given. MAIN OUTCOME MEASURE(S): Serum E2, progesterone, *LH*, and *FSH* concentrations were measured. RESULT(S): The length of the luteal phase was < or =12 days in three of the six patients. One of the patients in whom the luteal phase was >12 days had a low serum progesterone concentration (2.9 ng/mL) on day 10. Serum *LH* concentrations decreased after the preovulatory hCG injection in all patients. However, a progressive increase in *LH* was observed after day 7, reaching normal values. CONCLUSION(S): Corpus luteum function seems to be impaired in cycles that are stimulated with *hMG* and the GnRH antagonist Cetrorelix.

19/3,AB/4
DIALOG(R)File 155:MEDLINE(R)

09665038 98120710 PMID: 9459089
Follicular fluid hormone concentrations after ovarian stimulation using gonadotropin preparations with different *FSH*/*LH* ratios. II. Comparison of *hMG* and recombinant *FSH*.
Duijkers IJ; Willemsen WN; Hollanders HM; Hamilton CJ; Thomas CM; Vemer HM
Department of Obstetrics and Gynecology, University Hospital Nijmegen St. Radboud, The Netherlands.
International journal of fertility and women's medicine (UNITED STATES) Nov-Dec 1997, 42 (6) p431-5, Journal Code: CUU
Languages: ENGLISH
Document type: Clinical Trial; Journal Article; Randomized Controlled Trial
Record type: Completed

OBJECTIVE: A small amount of *LH* is necessary for 17 beta-estradiol production in the ovarian follicle. *Human* *menopausal* *gonadotropin* (*hMG*) contains equal amounts of *FSH* and *LH* activity, whereas recombinant *FSH* is a gonadotropin preparation without *LH*. The aim of the present randomized study was to investigate whether ovarian stimulation treatment with recombinant *FSH* or *hMG* resulted in different steroidal composition of follicular fluid. METHODS: Antral fluid from mature follicles was collected in in vitro fertilization cycles and concentrations of testosterone, androstenedione, estrone, estradiol, progesterone, *FSH*, and *LH* were determined. Seven patients (27 samples) were treated with *hMG*, 6 patients (22 samples) with recombinant *FSH*. RESULTS: Androgen, estrogen, progesterone, and *FSH* concentrations in follicular fluid tended to be lower in the group treated with recombinant *FSH*, but the variation was large and differences were statistically not significant. CONCLUSION: Treatment with a gonadotropin preparation containing no *LH* resulted in adequate androgen and estrogen levels in antral fluid of the ovarian follicle in women with normal endocrine profiles, even during pituitary suppression by a GnRH agonist. Apparently, the amount of endogenous *LH* was sufficient for steroid production within the follicle.

19/3,AB/5
DIALOG(R)File 155:MEDLINE(R)

09463923 97261517 PMID: 9107444
Similar pregnancy and spontaneous abortion rates after treatment with low-dose *human* *menopausal* *gonadotropin* versus pure follicle stimulating hormone in women with luteal phase defects. Check JH; Fine W
University of Medicine and Dentistry of New Jersey Robert Wood Johnson Medical School, Camden Cooper Hospital, USA.
Clinical and experimental obstetrics & gynecology (ITALY) 1997, 24 (1) p5-7, ISSN 0390-6663 Journal Code: DB1
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The study presented herewith was designed to compare the pregnancy and abortion rates in patients treated with gonadotropin preparations with and without *LH* content based on data suggesting that higher serum *LH* levels during the follicular phase may reduce subsequent pregnancy rates and increase spontaneous abortion rates. Infertile patients with luteal phase defects related to releasing eggs prior to complete follicular maturation were treated with either ultra-low dose (75 IU) *hMG* or pure *FSH*. The pregnancy rates for first treatment cycles for *hMG* versus pure *FSH* was 22.7% and 20.3%, respectively. The spontaneous abortion rates were also similar (8.0% and 9.1%). There were no multiple births resulting from these 36 pregnancies. Ovarian hyperstimulation syndrome was not observed in any of the 164 stimulation cycles. Thus these results show no advantage in choosing a preparation devoid of *LH* therefore giving the patient the opportunity to purchase the least expensive medication that is available.

19/3,AB/6
DIALOG(R)File 155:MEDLINE(R)

08986985 96344396 PMID: 8755360
[Disappearance of migraine crises in two patients with male infertility treated with human chorionic gonadotropin/human menopausal gonadotrophin] Desaparicion de crisis migranosas en dos pacientes tratados con hCG/ *hMG* por infertilidad masculina.
Arango O; Bielsa O; Pascual-Calvet J; Herrero M; Gelabert-Mas A Servicio de Urologia, Hospital del Mar, Universidad Autonoma de Barcelona.
Revista de neurologia (SPAIN) Aug 1996, 24 (132) p977-9, ISSN 0210-0010 Journal Code: CG9
Languages: SPANISH
Document type: Journal Article
Record type: Completed
Two patients aged 52 and 31 respectively, treated for male infertility with gonadotrophins (LCG/LMG), showed marked improvement of their migraine crises associated with a typical aura which had been present since puberty. Changes in the number, motility and morphology of the spermatozoids were seen in the seminogram. The plasma concentrations of *FSH*, *LH*, testosterone an 17-beta oestrodiol were within normal limits. After three months of empirical treatment with LCG/ LMG (to stimulate spermatogenesis) the migraine crises ceased and the patients are still free of migraine after 32 and 26 months respectively. The relationship between migraine and the sex hormones is discussed, in the context of current knowledge of the psysiopathology of migraine and the beneficial effects obtained after treatment with LCG/LMG. We have not found any reference in the literature to the use of gonadotrophins in the treatment of migraine with a typical aura.

19/3,AB/7
DIALOG(R)File 155:MEDLINE(R)

08751728 96356458 PMID: 8748920
Serum levels of follicle-stimulating hormone and luteinizing hormone after subcutaneous administration of *human* *menopausal* *gonadotropin* during

pituitary suppression.
Duijkers IJ; Magnusson YM; Hollanders HM
Department of Obstetrics and Gynecology, University Hospital Nijmegen St. Radboud, The Netherlands.
International journal of fertility and menopausal studies (UNITED STATES) Nov-Dec 1995, 40 (6) p307-10, ISSN 1069-3130 Journal Code: BSJ Languages: ENGLISH
Document type: Journal Article
Record type: Completed
OBJECTIVE: The present study investigated the pharmacokinetics of a single subcutaneous dose of *human* *menopausal* *gonadotropin* (*hMG*) on serum follicle-stimulating hormone (*FSH*) and luteinizing hormone (*LH*) concentrations. SUBJECTS AND METHODS: Six healthy female volunteers, aged 20-40 years, with regular menstrual cycles and normal endocrine profiles, who were not receiving any hormonal medication, were treated with the gonadotropin-releasing-hormone agonist buserelin to suppress endogenous gonadotropin release. One volunteer dropped out during treatment. When the serum estradiol concentration had fallen to below 500 pmol/L, an injection of 150 IU *hMG* (HumegonR) was given subcutaneously. Immediately before injection and 0.5, 1, 2, 3, 4, 6, 8, 10, 12, 15, 20, 24, 48 and 96 hours after, blood samples were drawn for determination of *FSH* and *LH* concentrations. RESULTS: The baseline *FSH* level was 2.8 IU/L, and peak concentration (6.8 IU/L) was reached 12 hours after *hMG* injection (median values). Exogenous *LH* could not be measured because of the presence of endogenous *LH*. DISCUSSION: The pattern of serum *FSH* concentrations after a single injection of *hMG* was found to resemble that seen after intramuscular *hMG* administration, although the peak *FSH* value was reached somewhat later.

19/3,AB/8
DIALOG(R)File 155:MEDLINE(R)

08697925 96151672 PMID: 8556078
A randomized, controlled trial comparing follicle stimulating hormone (*FSH*) to *human* *menopausal* *gonadotropin* (*hMG*) in fertilization in vitro]
Essai controle, randomise, comparant l'hormone folliculo-stimulante (*FSH*) a la gonadotrophine menopausique humaine (*hMG*) dans la fecondation in vitro.
Daya S; Gumby J; Hughes EG; Collins JA; Sagle MA
Department of Obstetrics and Gynecology, McMaster University, Hamilton, Ontario, Canada.
Contraception, fertilite, sexualite (FRANCE) Dec 1995, 23 (12) p766-71, ISSN 1165-1083 Journal Code: BUD
Languages: FRENCH
Document type: Clinical Trial; Journal Article; Randomized Controlled Trial
Record type: Completed
The adverse effect of raised luteinizing hormone (*LH*) concentrations on reproductive outcome suggests that exogenous *LH* administration for ovarian stimulation may not be desirable. The aim of this study was to compare the clinical pregnancy rates between follicle stimulating hormone (*FSH*) and human menopausal gonadotrophin (*HMG*) used in in-vitro fertilization (IVF) cycles. A total of 232 infertile patients, with a mean duration of infertility of 67.1 +/- 32.9 months, were selected for IVF (female age < 38 years, *FSH* < 15 IU/l, and total motile sperm count > 5 x 10(6). A short (flare-up) protocol with daily leuprolide acetate was followed randomly from day 3 with *FSH* (n = 115) or human menopausal gonadotrophin (*HMG* ; n = 117), at an initial dose of two ampoules per day. A maximum of three embryos was transferred, and the luteal phase was supported with four doses of HCG (2,500 IU). No differences were observed between the two groups in any of the cycle response variables except fertilization rates per oocyte and per patient, both of which were significantly higher with *FSH*. Clinical pregnancy rates per cycle initiated, per oocyte retrieval and per embryo transfer were 19.1, 21.0 and 22.7% respectively for *FSH*, and 12.0, 12.8 and 15.4% respectively for *HMG*. Whilst these differences were not statistically significant, the results of this interim analysis suggest that *HMG* may be associated with a lower clinical pregnancy rate than *FSH*.

19/3,AB/9
DIALOG(R)File 155:MEDLINE(R)

08573368 95360831 PMID: 7634183
Comparison of *human* *menopausal* *gonadotropin* and follicle-stimulating hormone with gonadotropin-releasing hormone agonist desensitization for controlled ovarian hyperstimulation in in vitro fertilization.
Yang TS; Wang BC; Chang SP; Ng HT
Department of Obstetrics and Gynecology, Veterans General Hospital-Taipei, Taiwan, R.O.C.
Zhonghua yi xue za zhi (TAIWAN) Jun 1995, 55 (6) p452-6, ISSN 0578-1337 Journal Code: CHQ
Languages: ENGLISH
Document type: Clinical Trial; Journal Article; Randomized Controlled Trial
Record type: Completed
BACKGROUND. A pregnancy in patients treated with gonadotropin-releasing hormone agonists (GnRHa) using follicle-stimulating hormone (*FSH*) alone was first reported by Shaw et al. in 1991. Recently, several

comparative trials have shown that *FSH* is as effective as *human* *menopausal* *gonadotropin* (*hMG*) in this indication. In other words, the residual endogenous levels of luteinizing hormone (*LH*) in GnRHa treated cycles may be generally sufficient to support *FSH* -induced follicular development to exempt from the co-administration of exogenous *LH*. METHODS. A total of 42 consecutive candidates for in vitro fertilization (IVF) participated in a prospective randomized study. In this study, the efficacy of two different gonadotropins (Pergonal and Metrodin, Serono, Italy) in inducing ovulation was investigated. All treated women were less than 40 years of age and had received a long desensitized protocol by a GnRHa (Leuprolide acetate, Takeda or Decapeptyl, Ferring). Ovarian inactivity was monitored by plasma estradiol and *LH* concentration. After the pituitary gland was down-regulated, all patients were given either *hMG* (n = 25) or *FSH* (n = 17) for controlled ovarian hyperstimulation (COH). RESULTS. The mean number of gonadotropin ampoules and the peak estradiol level were significantly higher in *hMG* group than in the *FSH* group. No significant differences were found between both groups in the incidence of cancelled cycles, failed oocyte recovery, mean number of oocytes recovered per patient, the fertilization and embryo cleavage-rate. However, the *hMG* group demonstrated a higher pregnancy and abortion rate. CONCLUSIONS. There is no significant difference between *hMG* and *FSH* stimulation when used following GnRHa desensitization for COH, so the cost should be considered.

19/3,AB/10
DIALOG(R)File 155:MEDLINE(R)

08548379 95323011 PMID: 7599664
Patterns of serum *FSH*, *LH* and hCG after i.m. or i.v. administration of *hMG* during pituitary suppression.
Duijkers IJ; Hollanders HM; Willemsen WN; de Leeuw R; Vemer HM Department of Obstetrics and Gynecology, University Hospital Nijmegen St. Radboud, The Netherlands.
International journal of fertility and menopausal studies (UNITED STATES) Mar-Apr 1995, 40 (2) p86-91, ISSN 1069-3130 Journal Code: BSJ Languages: ENGLISH
Document type: Clinical Trial; Controlled Clinical Trial; Journal Article Record type: Completed
OBJECTIVE -- The study was undertaken to investigate the effects of a commonly used ovarian stimulation regimen on gonadotropin levels. METHODS -- The behavior of follicle-stimulating hormone (*FSH*), luteinizing hormone (*LH*), and human chorionic gonadotropin (hCG) was studied after intramuscular (i.m.) and intravenous (i.v.) *human* *menopausal* *gonadotropin* (*hMG*) administration. Six female volunteers participated in the study. During pituitary suppression with a gonadotropin-releasing hormone (GnRH) agonist (Buserelin), a single dose of *hMG* (150 IU) was injected i.m. or i.v., in a cross-over design with an interval of 2 weeks. Blood samples were collected frequently after the injection. Serum concentrations of *FSH*, specific *LH* and hCG were determined. RESULTS -- After i.m. administration of *hMG*, a peak *FSH* concentration of 7.4 +/- 1.3 U/L was reached after 8 (6-24) hours, with a subsequent decrease. At 0.5 hour after i.v. administration, peak *FSH* values of 30.5 +/- 5.6 U/L were obtained, followed by a decrease to baseline levels within 48 hours. Exogenous *LH* and hCG were hardly detectable after i.m. administration of *hMG*. One-half hour after i.v. injection of *hMG*, a small increase in specific *LH* levels to 6.7 +/- 2.6 U/L was shown, followed by a decline. hCG concentrations increased after i.v. *hMG* administration to 7.6 +/- 1.6 U/L.

19/3,AB/11
DIALOG(R)File 155:MEDLINE(R)

08533936 95301262 PMID: 7782055
Follicle-stimulating hormone versus *human* *menopausal* *gonadotropin* for in vitro fertilization: results of a meta-analysis. Daya S
Department of Obstetrics and Gynecology, McMaster University, Hamilton, Ont., Canada.
Hormone research (SWITZERLAND) 1995, 43 (5) p224-9, ISSN 0301-0163 Journal Code: GBI
Languages: ENGLISH
Document type: Journal Article; Meta-Analysis
Record type: Completed
The observation of adverse effects of high-follicular-phase *LH* levels on fertilization, cleavage, embryo quality and pregnancy suggests that exogenous *LH* administration for ovarian stimulation in IVF may also be detrimental. The purpose of this study was to compare the use of *FSH* with *hMG* in IVF by conducting a systematic overview and meta-analysis of the evidence in the literature from randomized trials comparing the two gonadotropins. The data were extracted and pooled from eight studies that satisfied the inclusion criteria. The results show that *FSH* performs significantly better than *hMG* and is associated with at least 50% higher clinical pregnancy rates.

19/3,AB/12
DIALOG(R)File 155:MEDLINE(R)

08451289 95191818 PMID: 7885608

Combined use of goserelin acetate and *human* *menopausal* *gonadotropin* in the induction of follicular growth in a program of fertilization in vitro and embryo transfer]

Uso combinato del Goserelin acetato e della gonadotropina umana menopausale nell'induzione della crescita follicolare in un programma di fertilizzazione in vitro e embrio-transfer.

Beneventi F; Persiani P; Filoni G; Masanti ML; Ravagni Probizer MF; Polatti F; Zara C

Clinica Ostetrica e Ginecologica, Universita degli Studi di Pavia, Policlinico S. Matteo IRCCS.

Minerva ginecologica (ITALY) Dec 1994, 46 (12) p645-50, ISSN 0026-4784 Journal Code: N66

Languages: ITALIAN

Document type: Clinical Trial; Journal Article

Record type: Completed

OBJECTIVE: to investigate the efficacy of a gonadotropin-releasing hormone analogue (GN-RH-a) in combination with human menopausal menotropin (*hMG*) for in-vitro fertilization. METHODS: 30 infertile women aged 32 to 37 years received a combined treatment with a long-acting slow-releasing Gn-RH-a and *hMG* to perform ovarian stimulation in a program of in-vitro fertilization. Serum levels of Follicle Stimulating Hormone (*FSH*), Luteinizing Hormone (*LH*), 17-beta-estradiol (E2), Progesterone (P), were evaluated and transvaginal ultrasonographic examinations were performed during the treatment to assess the ovarian volume, the mean number and diameter of growing follicles and the endometrial morphology and thickness. Oocyte retrieval was performed by transvaginal-ultrasound-guided approach, 24-36 hours after the administration of human chorionic gonadotropin (hCG). RESULTS: our data suggest that the combined use of Gn-RH-a and exogenous gonadotropins is associated with a more uniform ovarian response and with the absence of premature *LH* discharge. Moreover, the Gn-RH-a as polymer implant provides a controlled delivery per day over a one-month period and avoids the inconvenience of a daily administration. CONCLUSIONS: this kind of Gn-RH-a formulation, in in-vitro fertilization programs, appears very effective in inducing a reversible hypogonadic state, easy to manage and well tolerated by the patient. Its association with exogenous gonadotropins appears to be effective in increasing the success rate of good quality oocyte retrieval.

19/3,AB/13
DIALOG(R)File 155:MEDLINE(R)

08372937 95248218 PMID: 7730737

Efficacy and short-term effects of pravastatin, a potent inhibitor of *HMG*-Co A reductase, on hypercholesterolemia in climacteric women. Ushiroyama T; Ikeda A; Ueki M; Sugimoto O

Department of Obstetrics and Gynecology, Osaka Medical College, Japan. Journal of medicine (UNITED STATES) 1994, 25 (5) p319-31, ISSN 0025-7850 Journal Code: IYG

Languages: ENGLISH

Document type: Journal Article

Record type: Completed

The effects of pravastatin, a potent inhibitor of *HMG* -CoA reductase, on serum lipids and lipoproteins were studied in 86 patients (36 premenopausal and 50 postmenopausal women) suffering from primary hypercholesterolemia. The effects of this lipid-lowering drug on serum gonadotropins and sex steroids are also reported. Pravastatin produced a mean reduction in serum total cholesterol (T-CHO) of 24.7%, triglyceride (TG) of 30.0%, and low-density lipoprotein cholesterol (LDL-CHO) of 36.0% after treatment for three months. The drug also produced a mean increase in high-density lipoprotein cholesterol (HDL-CHO) of 1.4% after three months. Serum follicle-stimulating hormone (*FSH*), luteinizing hormone (*LH*), estrone (E1), estradiol (E2), and testosterone (T) levels were not significantly changed from pre-therapy levels in either pre- or post-menopausal women after treatment for six months. Pravastatin is well-tolerated for six months and is a very effective lipid lowering agent with no effects on the biosynthesis of sex steroids. These findings suggest that pravastatin can be used for treatment of primary hypercholesterolemia in women around menopause.

19/3,AB/14
DIALOG(R)File 155:MEDLINE(R)

08252036 95010898 PMID: 7926145

Differences in serum follicle-stimulating hormone uptake after intramuscular and subcutaneous *human* *menopausal* *gonadotropin* injection.

Dobbs KE; Dumesic DA; Dumesic JA; Shapiro SS

Department of Obstetrics and Gynecology, University of Wisconsin, Madison.

Fertility and sterility (UNITED STATES) Nov 1994, 62 (5) p978-83, ISSN 0015-0282 Journal Code: EVF

Languages: ENGLISH

Document type: Journal Article

Record type: Completed

OBJECTIVE: To determine the difference in *FSH* bioavailability from IM and SC injection sites. DESIGN: Menotropin was injected into either an IM or SC site in women undergoing ovarian suppression with leuprolide acetate. Serial serum samples were obtained over 96 hours. SETTING: Academic tertiary care institution. PATIENTS: Seven volunteer cycling women. MAIN

OUTCOME MEASURES: Follicle-stimulating hormone, *LH*, and E2 were determined in serial serum samples. RESULTS: Peak serum *FSH* levels were higher and occurred earlier after IM injection than after SC injection. Computed absorption rate constants for *FSH* after IM and SC injection differed significantly. CONCLUSIONS: The pharmacokinetics of *FSH* differ after a single IM or SC injection.

19/3,AB/15
DIALOG(R)File 155:MEDLINE(R)

08175372 94273860 PMID: 8005281
Testicular secretion after pulsatile *human* *menopausal* *gonadotropin* therapy in gonadotropin-releasing hormone agonist desensitized dysspermic men.
Adamopoulos DA; Nicopoulou S; Kapolla N; Vassilopoulos P; Karamertzanis M Endocrine Department, Elena's Hospital, Athens, Greece.
Fertility and sterility (UNITED STATES) Jul 1994, 62 (1) p155-61, ISSN 0015-0282 Journal Code: EVF
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
OBJECTIVE: To evaluate Leydig and Sertoli cell response to prolonged pulsatile stimulation with *hMG* after pituitary desensitization with the GnRH agonist (GnRH-a) triptoreline in normogonadotropic men with abnormal semen analyses. DESIGN: A group of four oligozoospermic men were investigated in the following manner: [1] basal and GnRH-hCG stimulated activity were assessed in all volunteers; [2] a long-acting form of the GnRH-a triptoreline (3.75 mg every month for 3 months) was given, and its effectiveness was evaluated on day 20; and [3] on that day *hMG* pulsatile administration was introduced (150 IU per 24 hours in 90-minute pulses) with serial hourly sampling (6 to 7 hours) for measurement of *FSH*, *LH* , T, E2, and inhibin on days 20, 41, and 90 from the first GnRH-a injection. RESULTS: Initial evaluation showed normal basal, GnRH, and hCG-stimulated hormone concentrations. Pituitary and gonadal activity were effectively suppressed by GnRH-a when tested on day 20. Pulsatile *hMG* had no immediate stimulatory effect on gonadal activity (day 20). However, on middle and final evaluations (days 41 and 90), basal T, E2, and inhibin had risen to pre-GnRH-a levels, and, moreover, distinct secretory pulses were seen for these hormones. CONCLUSION: These findings indicate that suppression of pituitary gonadotropin activity with triptoreline combined with pulsatile *hMG* stimulation offers a new, useful tool for investigation of the male reproductive system in oligozoospermic men.

19/3,AB/16
DIALOG(R)File 155:MEDLINE(R)

08089350 94147211 PMID: 8313205
Gonadotropin stimulation after pituitary desensitization with leuprolide acetate, comparison of *FSH*/*hMG* and *hMG* alone cycles--a study of 166 cases.
Hwang FR; Chang MY; Soong YK
Department of Obstetrics & Gynecology, Chang Gung Memorial Hospital, Kaohsiung, Taiwan, R.O.C.
Changgeng yi xue za zhi (TAIWAN) Dec 1993, 16 (4) p223-30, Journal Code: CHG
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The tenet that a combination of human follicle-stimulating hormone (hFSH)/*human* *menopausal* *gonadotropin* (*hMG*) after pituitary desensitization with GnRH analogue improves follicular recruitment was assessed by treating infertile women in an in vitro fertilization (IVF) program. The participants of this study were one hundred sixty-six infertile patients on IVF program who received *FSH*/ *hMG*, or *hMG* alone superovulation protocol after pituitary desensitization. Fertilization rate, cancellation rate, mean number of follicles, and endometrial thickness did not differ between the two groups. But in the *FSH*/*hMG* group, total oocyte per retrieval, embryo score, implantation rate, and viable pregnancy rates were slightly higher although the increase was not significant. Furthermore, the rate of preovulatory oocytes per retrieval, Estradiol (E2) level, embryos frozen, and embryos transferred were significantly higher in this group. This suggested that increasing the exogenous *FSH*/*LH* ratio in ovulation induction may result in a higher recovery of fertilizable oocytes and a subsequent potential for improvement in IVF outcome.

19/3,AB/17
DIALOG(R)File 155:MEDLINE(R)

08041473 93346587 PMID: 8345068
Pharmaco-dynamics of human menopausal gonadotrophin (*HMG*) and follicle-stimulating hormone (*FSH*). The importance of the *FSH* concentration in initiating follicular growth in polycystic ovary-like disease.
van Weissenbruch MM; Schoemaker HC; Drexhage HA; Schoemaker J Department of Paediatrics, Free University Hospital, Amsterdam, The Netherlands.
Human reproduction (ENGLAND) Jun 1993, 8 (6) p813-21, ISSN 0268-1161 Journal Code: HRP
Languages: ENGLISH
Document type: Clinical Trial; Journal Article; Randomized Controlled Trial

Record type: Completed
Using a randomized double-blind cross-over design, the pharmaco-dynamic and pharmaco-kinetic properties of 'pure' follicle-stimulating hormone (*FSH*) (Metrodin) and human menopausal gonadotrophin (*HMG*) (Pergonal) were studied in 24 women with polycystic ovary-like disease (PCOD) during induction of ovulation. Fifty-six cycles were stimulated with *FSH* and 60 cycles with *HMG*, according to a standard protocol. Gonadotrophins were administered i.v. in a pulsatile fashion using pulse frequencies of either 30 or 120 min. The cycles stimulated with either 30 or 120 min pulse intervals showed no differences among themselves. During the stimulation phase, the *FSH* and *HMG* stimulated cycles showed equal and dose dependent *FSH* concentrations (mean +/- SD). The luteinizing hormone (*LH*) concentrations (mean +/- SD) were also equal but unchanged compared to the mean basal concentration. The *LH*, *FSH* , total urinary oestrogen excretion, and testosterone profiles (mean +/- SD) obtained from cycle days -10 to 0 as well as the pregnanediol profiles obtained from cycle days 0 to +14 showed no differences either. The occurrence of an endogenous preovulatory *LH* surge was significantly more frequent in the cycles stimulated with a pulse interval of 30 min compared to the cycles stimulated with a pulse interval of 120 min. The addition of *LH* as provided in *HMG* did not influence the *FSH* threshold concentration above which initiation of follicular growth occurred, since no differences were found in the *FSH* 'stable' concentrations between *FSH* and *HMG* stimulated cycles. However, intra- and inter-individual variation in the *FSH* 'stable' concentration at which follicular growth was initiated became obvious.(ABSTRACT TRUNCATED AT 250 WORDS)

19/3,AB/18
DIALOG(R)File 155:MEDLINE(R)

07896296 93265971 PMID: 8495774
The luteal phase after ovulation induction with *human* *menopausal* *gonadotropin* and one versus two doses of a gonadotropin-releasing hormone agonist.
Corson SL; Batzer FR; Gocial B; Maislin G
Department of Obstetrics and Gynecology, Pennsylvania Hospital. Fertility and sterility (UNITED STATES) Jun 1993, 59 (6) p1251-6, ISSN 0015-0282 Journal Code: EVF
Languages: ENGLISH
Document type: Clinical Trial; Journal Article; Randomized Controlled Trial
Record type: Completed
OBJECTIVE: To use a GnRH agonist (GnRH-a) to induce ovulation after priming with exogenous *hMG* . DESIGN: Prospective, randomized double-blind protocol using one or two doses of intranasal nafarelin. SETTING: Office-based ovulation induction program. PATIENTS, INTERVENTIONS: Infertile women not conceiving after use of clomiphene citrate for at least 6 months who were given *hMG* and nafarelin. No luteal support was given. MAIN OUTCOME MEASURES: Serum concentrations of *FSH*, *LH*, E2, and P acutely and at 6 days after GnRH-a administration. Duration of the luteal phase was assessed. RESULTS: Ovulation with elevation of both *FSH* and *LH* was achieved. The two-dose regimen was more effective than one dose for sustained *LH* release. Luteal phase P values and luteal phase duration were both less than usually seen with gonadotropin hCG therapy in the absence of luteal phase support. CONCLUSIONS: Ovulation induction with GnRH-a after *hMG* priming produces unacceptable luteal phase cycles in the absence of hormonal support.

19/3,AB/19
DIALOG(R)File 155:MEDLINE(R)

07738166 91135328 PMID: 2149487
Ovarian response patterns to *human* *menopausal* *gonadotropin* in mixed hyperandrogenemia.
Hamori M; Torok A; Zwirner M; Tinneberg HR
Department of Obstetrics and Gynecology, University of Tubingen, FRG. Acta endocrinologica (DENMARK) Dec 1990, 123 (6) p598-602, ISSN 0001-5598 Journal Code: ONC
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Twenty-eight hyperandrogenemic women suffering from infertility owing to chronic anovulation were treated with *hMG*. Only 7 patients exhibited the typical polycystic ovarian appearance of multiple subcortical cysts, however, a wide range (6-15 cm3) of ovarian volume was observed. The *LH*/*FSH* ratio was consistently lower than 2.5 and circulating androgens of both ovarian and adrenal origin were elevated. The 4 days dexamethasone suppression test showed more than 80% suppression of dehydroepiandrosterone-sulphate and a variable (40-60%) reduction of testosterone and androstenedione levels. Two different patterns of follicular development were observed in response to *hMG*. Sixteen patients exhibited polycystic ovarian reaction, whereas 12 women had a follicular growth pattern similar to that seen in *hMG*-stimulated normo-ovulatory subjects. Patients with polycystic ovarian reaction showed a significantly increased androstenedione response to *hMG* when compared with the other group. Moreover, the non-stimulated ovarian volume was found to be markedly greater than

in subjects without polycystic reaction. Thus, ovarian stimulation of patients with mixed hyperandrogenemia may elucidate the presence of borderline polycystic ovaries; furthermore the increased accumulation of androstenedione may suggest an inherent ovarian failure.

19/3,AB/20
DIALOG(R)File 155:MEDLINE(R)

07679359 93123446 PMID: 1479002
Pituitary gonadotrophin secretory capacity during the luteal phase in superovulation using GnRH-agonists and *HMG* in a desensitization or flare-up protocol.
Smitz J; Erard P; Camus M; Devroey P; Tournaye H; Wisanto A; Van Steirteghem AC
Centre for Reproductive Medicine, Vrije Universiteit Brussel, Belgium. Human reproduction (ENGLAND) Oct 1992, 7 (9) p1225-9, ISSN 0268-1161 Journal Code: HRP
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Pituitary gonadotrophin reserve and basal gonadotrophin secretion were tested during the luteal phase in women superovulated with buserelin/human menopausal gonadotrophin (*HMG*) in a desensitization (n = 17) or flare-up protocol (n = 7). In the desensitization protocol the luteinizing hormone-releasing hormone (LHRH) stimulated serum *LH* and follicle stimulating hormone (*FSH*) concentrations remained impaired at least until day 14 after arrest of the agonist. In the flare-up protocol basal and stimulated *LH* secretion was still abnormal on days 14 and 15 after human chorionic gonadotrophin (HCG) injection. Normal basal serum *FSH* concentrations were measured at the end of the luteal phase in the flare-up protocol, but the response of *FSH* to LHRH injection was still subnormal. We conclude that gonadotrophin function remained impaired until the end of the luteal phase after desensitization and flare-up GnRH-agonist and *HMG* stimulation protocols. Corpus luteum stimulation with exogenous HCG or substitution therapy using natural progesterone are required to prevent the possible negative effects resulting from pituitary dysfunction after GnRH-agonist treatment.

19/3,AB/21
DIALOG(R)File 155:MEDLINE(R)

07497426 92042604 PMID: 1834692
Comparison of plasma and follicular fluid hormone profiles following stimulation with *HMG* , with or without LHRH agonists, for in-vitro fertilization.
Firmin C; Antoine JM; Millot F; Alvarez S; Debray M; Tibi C; Cornet D; Salat-Baroux J; Laruelle P
Service de Biochimie, Hopital Tenon, Paris, France.
Human reproduction (ENGLAND) May 1991, 6 (5) p653-8, ISSN 0268-1161 Journal Code: HRP
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Plasma and follicular fluid (FF) hormone assays for follicle stimulating hormone (*FSH*), luteinizing hormone (*LH*), prolactin (PRL), oestradiol (E2), progesterone (P), delta-4-androstenedione (A4) and testosterone (T) were performed on the day of oocyte retrieval in two groups of normo-ovulatory women enrolled in an in-vitro fertilization (IVF) programme: 24 were treated using the decapeptyl agonists DTRP6, of luteinizing hormone-releasing hormone (LHRH) in the long protocol associated with human menopausal gonadotrophin (*HMG*) (49 FF) and 14 were stimulated with *HMG* alone (33 FF). In both FF and plasma the mean concentration of P was greater, and the E2/P ratios as well as the *LH* levels were lower in the agonist-treated group. In this group the follicular concentration of P was greater and the E2/P ratio lower when pregnancy occurred following IVF. The hormonal modifications may be due to greater functional maturity of the granulosa cells.

19/3,AB/22
DIALOG(R)File 155:MEDLINE(R)

07327038 91250186 PMID: 2128881
Induction of ovulation with pulsatile subcutaneous administration of *human* *menopausal* *gonadotropin* in patients with polycystic ovary syndrome.
Nakamura Y; Yamada H; Yoshida K; Manno T; Ubukata Y; Suzuki M; Yoshimura Y
Department of Obstetrics and Gynecology, Kyorin University, School of Medicine, Tokyo, Japan.
Hormone research (SWITZERLAND) 1990, 33 Suppl 2 p43-8, ISSN 0301-0163 Journal Code: GBI
Languages: ENGLISH
Document type: Clinical Trial; Controlled Clinical Trial; Journal Article Record type: Completed
The present study was undertaken to determine whether ovulation can be induced in patients with polycystic ovary syndrome (PCOS) by pulsatile subcutaneous administration of *hMG* after the pituitary secretion of *LH* and *FSH* was suppressed with a gonadotropin releasing hormone (GnRH) analogue. The results of the combined regimen cycles (group II) were compared with those of *hMG* (group I) or *FSH* (group III) pulsatile administration in the same PCOS patients. The ovulation rate (89.1% of 46 cycles)

in group I was significantly greater (p less than 0.01) than that found in group II (65.9% of 41 cycles). In group III, ovulation occurred in 89.5% of the 19 treatment cycles. Ovarian hyperstimulation syndrome (OHSS) occurred in 28.3% of cycles in group I, 7.3% in group II, and 26.3% in group III, respectively. The incidence of OHSS in group II was significantly lower than that found in group I or III. The rates of pregnancy were 10.9% of cycles in group I, 4.9% in group II, and 21.1% in group III, respectively. All 10 fetuses were singleton conceptions, and the pregnancies continued successfully to term. The present data demonstrate that pulsatile subcutaneous administration of *hMG* or *FSH* is effective in the induction of successful ovulation and the establishment of singleton pregnancy in patients with PCOS.

19/3,AB/23
DIALOG(R)File 155:MEDLINE(R)

07320029 91021794 PMID: 2120877
Between-lot variability in chromatographic and biochemical properties of *hMG*.
Stone BA; Quinn P; Marrs RP
Institute for Reproductive Research, Los Angeles, California. Acta endocrinologica (DENMARK) Aug 1990, 123 (2) p161-8, ISSN 0001-5598 Journal Code: ONC
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Ten lots of dissociated *hMG* were characterized by reverse-phase gradient high-performance liquid chromatography. Areas of 12 discrete peaks were directly related to dosages of *hMG* injected. The lots were further analysed for immunoactive-*FSH* (41.6-106.2 IU/ampule), immunoactive-*LH* (11.0-20.4 IU/ampule), bioactive-*LH* (2.7-17.1 IU/ampule) and bioactive-*hMG* (149-298 pg E2/mIU immunoactive-*FSH*/ml). Relationships between integrated areas of the HPLC peaks and biochemical properties of the *hMG* lots were analysed by stepwise multiple linear regression. Between-lot differences in immunoactive-*LH* and immunoactive-*FSH* were related to HPLC peak areas (p less than 0.05); differences in bioactive-*LH* were not. Areas of 8 peaks were related to differences in bioactive-*hMG* activity, facilitating close approximation of bioactive-*hMG* from the derived multi-linear model (p less than 0.001). Rapid characterization of *hMG* by HPLC is of relevance as recent reports have shown that ovarian responses and pregnancy outcomes of patients are related to the immunoactive and bioactive gonadotropin content of *hMG* preparations used to induce multiple folliculogenesis before oocyte aspiration, in vitro fertilization, and embryo replacement.

19/3,AB/24
DIALOG(R)File 155:MEDLINE(R)

07311846 90169194 PMID: 2106449
Comparison of urinary human follicle-stimulating hormone and *human* *menopausal* *gonadotropin* for ovarian stimulation in polycystic ovarian syndrome.
Larsen T; Larsen JF; Schioler V; Bostofte E; Felding C
Department of Obstetrics and Gynecology, Herlev University Hospital, Copenhagen, Denmark.
Fertility and sterility (UNITED STATES) Mar 1990, 53 (3) p426-31, ISSN 0015-0282 Journal Code: EVF
Languages: ENGLISH
Document type: Clinical Trial; Journal Article; Randomized Controlled Trial
Record type: Completed
A randomized, double-blind, crossover study was carried out to compare purified urinary follicle-stimulating hormone (*FSH*) and *human* *menopausal* *gonadotropin* (*hMG*) for ovarian stimulation in polycystic ovarian syndrome (PCOS). Twelve patients were stimulated with *FSH* and *hMG* in three alternate cycles. *FSH*, luteinizing hormone (*LH*), estradiol, dihydroepiandrosterone sulphate, free and total testosterone, delta 5-androstenedione, sex hormone binding globulin, and ovarian volume were monitored during the stimulation. There was no difference between the dose of *FSH* and *hMG* necessary to induce preovulatory follicles in the individual patients. The mean increase of ovarian volume during stimulation with *FSH* and *hMG* was 120% and 129% respectively (no significant difference). Two patients became pregnant in the first cycle. Two other patients had delayed bleeding and positive serum-human chorionic gonadotropin. No significant difference was found in the endocrine changes during the two different stimulation methods. The *LH*/*FSH* ratio was normalized after a few days of treatment regardless of the type of stimulation. The size of the material does not permit a comparison of the efficacy of the two treatment schedules. Our clinical and ultrasonic observations do not support the theory that treatment of infertility in PCOS with *FSH* is more safe than with *hMG*.

19/3,AB/25
DIALOG(R)File 155:MEDLINE(R)

07066007 93339454 PMID: 8339820
Comparative study of hormonal dynamics in pregnant and nonpregnant cycles during pulsatile subcutaneous administration of *human* *menopausal*

gonadotropin in anovulatory infertile women. Nakamura Y; Yoshimura Y; Oda T; Shiokawa S; Yoshinaga A; Akiba M Department of Obstetrics and Gynecology, Kyorin University School of Medicine, Tokyo, Japan.
Fertility and sterility (UNITED STATES) Aug 1993, 60 (2) p254-61, ISSN 0015-0282 Journal Code: EVF
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
OBJECTIVE: To assess the clinical relevance of daily hormonal changes for achieving a successful pregnancy in anovulatory infertile women. DESIGN: A comparative study of hormonal dynamics in pregnant and nonpregnant cycles during the pulsatile subcutaneous administration of *hMG*. Subjects received subcutaneous injection of either 9.375 IU or 14.0625 IU of *hMG* diluted in 50-microL physiological saline (total daily dose, 150 or 225 IU) at 90-minute intervals by means of a portable peristaltic pump. SETTING: Kyorin University Hospital and Ichikawa General Hospital. PATIENTS: We analyzed 18 pregnant and 42 nonpregnant cycles in 17 patients with secondary hypothalamic/pituitary amenorrhea who conceived after receiving pulsatile *hMG* treatment. Another 14 women with normal spontaneous ovulation, including 14 pregnant and 15 nonpregnant cycles, served as controls. MEASUREMENTS: Serum concentrations of *LH*, *FSH* , E2, and P were measured, and the P:E2 ratio was determined. RESULTS: Serum concentrations of *LH* and *FSH* did not differ significantly between the pregnant and nonpregnant cycles. Serum levels of P and E2 were significantly higher during the *hMG* treatments than those of the spontaneous ovulatory cycles throughout the follicular and luteal phases. Up to the midluteal phase, the P and E2 values in the nonpregnant cycles during the *hMG* treatments did not differ significantly from those in the pregnant cycles. The P:E2 ratios were comparable between the pulsatile stimulatory cycles and the normal spontaneous ovulatory cycles. However, the P:E2 ratio in the early and midluteal phases was significantly greater in the pregnant cycles than in the nonpregnant cycles. CONCLUSION: The P:E2 ratio in the early and midluteal phases is a more important indicator of hormonal function for implantation than the absolute levels of either P or E2.

19/3,AB/26
DIALOG(R)File 155:MEDLINE(R)

06996829 92105303 PMID: 1662226
Comparison of the effects of *HMG* or pure *FSH* stimulation during suppression with an LHRH agonist analogue.
Torok A; Hamori M; Tinneberg HR; Cledon P; Gagsteiger F; Hanf V Department of Obstetrics and Gynaecology, University of Tubingen, FRG. Human reproduction (ENGLAND) Aug 1991, 6 (7) p922-4, ISSN 0268-1161 Journal Code: HRP
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Infertile patients who responded poorly in an in-vitro fertilization programme were treated with human menopausal gonadotrophin (*HMG*) or with pure follicle stimulating hormone (*FSH*) during continuous administration of a luteinizing hormone-releasing hormone (LHRH) agonist, to determine whether a low level of *LH* is required for follicle maturation. No statistically significant differences were detected in the dose of gonadotrophins, duration of treatment, oestradiol and *LH* levels, numbers of recovered oocytes, transferred embryos or fertilization rates. It is concluded that an absence of low levels of *LH* does not disturb follicular development in the follicular phase. Based on the low fertilization rates in the present study (0.32 with *HMG* versus 0.45 with *FSH*) the authors suggest that, as well as hormonal deficiency, other factors may also influence follicular and early embryonic development.

19/3,AB/27
DIALOG(R)File 155:MEDLINE(R)

06534988 88182076 PMID: 2895604
Treatment of undescended testes with *hMG* and *hMG* plus hCG: clinical, hormonal and sonographic evaluation.
De Rosa G; Della Casa S; Corsello SM; Colabucci F; Rossodivita A; Ferdinandi A; Cecchini L
Institute of Endocrinology, Catholic University School of Medicine, Rome, Italy.
Annales d'endocrinologie (FRANCE) 1987, 48 (6) p468-72, ISSN 0003-4266 Journal Code: 540
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
20 children (mean age 4, 6 yrs), of whom 13 had unilateral and 7 had bilateral cryptorchidism were treated with *hMG*: 40 I.U. three i.m. injections per week for six or eight weeks. Where there was no descent of testis, treatment was continued with *hMG* at the same dosage plus hCG 500 I.U. one i.m. injection per week for an additional four weeks. The children were tested for *FSH*, *LH* and Testosterone serum levels at the beginning of treatment and after 6, 8 and 14 weeks. We obtained testicular descent in 10 out of 20 cases treated. Ultrasonography enabled us to locate the undescended testes in all cases and to follow the response to treatment.

19/3,AB/28
DIALOG(R)File 155:MEDLINE(R)

05959273 87057935 PMID: 3097055
Ovulation induction with *human* *menopausal* *gonadotropin* compared to human urinary follicle-stimulating hormone results in a significant shift in follicular fluid androgen levels without discernible differences in granulosa-luteal cell function.
Polan ML; Daniele A; Russell JB; DeCherney AH
Journal of clinical endocrinology and metabolism (UNITED STATES) Dec 1986, 63 (6) p1284-91, ISSN 0021-972X Journal Code: HRB Contract/Grant No.: HD-16962, HD, NICHD
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Follicular fluid estradiol, progesterone, testosterone, and androstenedione levels were compared in 2 groups of spontaneously ovulatory women undergoing ovulation induction with *human* *menopausal* *gonadotropin* (*hMG*; which contains equal amounts of *LH* and *FSH*) or human urinary *FSH* (huFSH). The results were correlated with the ratios of embryo cleavage and pregnancy. Although significantly more *FSH* [1268 +/- 38 (+/- SEM) vs. 953 +/- 38 IU; P less than 0.05] was required for equivalent hyperstimulation in *hMG* compared to huFSH cycles, the number of oocytes retrieved and fertilized and the number of embryos transferred were similar for the 2 ovulation induction protocols. Forty-two follicles from 21 women stimulated with *hMG* and 38 follicles from 15 women stimulated with huFSH were examined and found to be representative of the total cohort of aspirated follicles. Follicular fluid estradiol and progesterone levels were similar, but *hMG*-stimulated follicles contained significantly more testosterone [7.83 +/- 0.52 (+/- SEM) vs. 6.30 +/- 0.42 ng/ml; P less than 0.03] and less androstenedione (24.4 +/- 3.6 vs. 37.8 +/- 5.0 ng/ml; P less than 0.03) than did huFSH-stimulated follicles. Embryonic cleavage rates were similar for all fertilized oocytes from both *hMG* - and huFSH-stimulated cycles, although pregnancy rates were significantly higher in huFSH cycles (40% vs. 9.5%; P less than 0.05). In addition, aromatase activity, progesterone production, and [125I]hCG-binding activity were compared in granulosa-luteal cells isolated from some of these women. Cells from 21 follicles from 9 women stimulated with *hMG* and 24 follicles from 9 women stimulated with huFSH were studied. There were no significant differences in aromatase activity, progesterone production, or [125I]hCG binding. Thus, the presence or absence of exogenous *LH* during ovulation induction with *FSH* has little direct effect on granulosaluteal cell function. However, the presence of *LH* during ovulation induction with *FSH* does appear to alter thecal androgen metabolism, resulting in higher testosterone and lower androstenedione levels in follicular fluid. Such a shift in androgen milieu may impair oocyte development and successful implantation.

19/3,AB/29
DIALOG(R)File 155:MEDLINE(R)

05958659 87005372 PMID: 3093280
Differences in ovarian stimulation in *human* *menopausal* *gonadotropin* treated woman may be related to follicle-stimulating hormone accumulation.
Ben-Rafael Z; Strauss JF; Mastroianni L; Flickinger GL
Fertility and sterility (UNITED STATES) Oct 1986, 46 (4) p586-92, ISSN 0015-0282 Journal Code: EVF Contract/Grant No.: F05TW03580, TW, FIC; HD-06274-14, HD, NICHD Erratum in Fertil Steril 1987 Feb;47(2) 365
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Two groups of normal ovulatory women who displayed either a marked (high responders; HR) or a more subtle (low responders; LR) ovarian response to a fixed dose of human menopausal gonadotropins (*hMG*) were evaluated for differences in blood levels of hormones. Serum follicle-stimulating hormone (*FSH*) levels doubled during the first 3 days of treatment (to approximately 20 mIU/ml) in all patients; thereafter, the levels plateaued in LR but continued to rise steadily (to 35 mIU/ml) in HR. In the latter group, rise in estradiol (E2) and *FSH* was accompanied by an increase of luteinizing hormone (*LH*; two to five times) progesterone (P; four to eight times) testosterone (T; three to four times) and prolactin (PRL; 2 times) toward the end of the follicular phase. Positive correlation was found between *FSH* and E2 in HR and LR. Positive correlation was found, however, between *LH*, T, and P and between E2, P, and PRL only in HR. The extent of *FSH* accumulation in the circulation may be a principal factor in determining an individual's response to *hMG* therapy. Temporal changes of blood hormones indicated that the continuous rise in *FSH* levels in HR was associated with early luteinization of the follicles. Increased secretion of P in the follicular phase of these women (HR) probably synergized with the elevated E2 levels to elicit *LH* release. Similar changes in blood hormones were not found in LR.

19/3,AB/30
DIALOG(R)File 155:MEDLINE(R)

05956270 86108981 PMID: 3080344
Human urinary follicle-stimulating hormone and

human *menopausal* *gonadotropin* in induction of multiple follicle growth and ovulation.
Venturoli S; Orsini LF; Paradisi R; Fabbri R; Porcu E; Magrini O; Flamigni C
Fertility and sterility (UNITED STATES) Jan 1986, 45 (1) p30-5, ISSN 0015-0282 Journal Code: EVF
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Five normally menstruating women were treated, in an attempt to induce development of multiple follicles, with pharmacologic doses of purified human urinary follicle-stimulating hormone (hU-*FSH*) and (in another instance) with *human* *menopausal* *gonadotropin* (*hMG*) administered on the second and third days after the onset of menses. All of the cycles were ovulatory: the follicular phase was short and the luteal phase length was normal in both *hMG* and hU-*FSH* treatment. No substantial differences were seen between the two types of treatment in regard to plasma values of *FSH*, luteinizing hormone (*LH*), estradiol (E2), testosterone, and progesterone (P). *FSH*, E2, and P increased to supraphysiologic levels, and *LH* fluctuated within the normal range. On ultrasound examination, a large number of growing and matured follicles were visualized during both treatments: at human chorionic gonadotropin administration, multiple preovulatory follicles (greater than or equal to 15 mm) and only a few small follicles (less than 10 mm) were imaged, without any difference between the two types of treatment. Multiple corpora lutea were often obtained. These data underline that pharmacologic doses of *FSH* alone are able to induce the growth of multiple preovulatory follicles when the initiation of stimulation is timed early. Besides this, exogenous *LH* does not seem to interfere with follicular recruitment, and it is not required for follicular maturation and ovarian steroidogenesis when endogenous normal *LH* mean values are present.

19/3,AB/31
DIALOG(R)File 155:MEDLINE(R)

05879273 86168728 PMID: 3007556
Characterization of corpora lutea in monkeys after superovulation with *human* *menopausal* *gonadotropin* or follicle-stimulating hormone.
Stouffer RL; Hodgen GD; Graves PE; Danforth DR; Eyster KM; Ottobre JS Journal of clinical endocrinology and metabolism (UNITED STATES) May 1986, 62 (5) p833-9, ISSN 0021-972X Journal Code: HRB Contract/Grant No.: HD-00488, HD, NICHD; HD-12333, HD, NICHD; HL-0724, HL , NHLBI
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The objective of this study was to characterize the corpora lutea (CL) of superovulatory follicles, which form in nonhuman primates after treatment with exogenous gonadotropins. Adult female rhesus monkeys (n = 15) with amenorrhea or irregular menstrual cycles received im injections of either *human* *menopausal* *gonadotropin* [*hMG* ; equivalent amounts (37.5 IU) of hFSH and hLH] or human *FSH* (37.5 IU) twice daily for 6 or 9 days. One day later, hCG (1000 IU) was administered to induce ovulation. Serum estradiol levels rose rapidly in *hMG* -treated monkeys. In contrast, estradiol levels did not rise in *FSH*-treated animals for 3-4 days, but ultimately reached concentrations comparable to or greater than those in *hMG*-treated monkeys. Serum progesterone levels were low in all groups before hCG injection, but rose thereafter. Peak progesterone levels were greater (P less than 0.05) in 9- vs. 6-day treatment groups. Serum concentrations of hCG peaked within 24 h of injection and declined to undetectable levels 6-7 days later. The mass of luteinized tissue removed 7 days after hCG injection was markedly (P less than 0.01) increased in *hMG*- and *FSH*-treated monkeys compared to that of the active CL of the natural menstrual cycle (n = 6). However, the protein content of luteal tissue from *FSH*-treated monkeys was less (P less than 0.05) than that in *hMG*-treated groups or in the CL of the natural cycle. Luteal particulate fractions from all treatment groups had [125I]human *LH* binding sites, with the Kd for *LH* interaction comparable to that in the CL of the natural cycle. However, the *LH*-binding capacity in *hMG*-treated groups was less (P less than 0.05) than that in the CL of the cycle, when normalized per mg tissue wt or protein. Notably, the binding capacity in *FSH*-treated groups was comparable to that in the CL cycle when expressed per mg protein. Nevertheless, only after 6 days (not 9 days) of *FSH* treatment or 9 days (not 6 days) of *hMG* treatment did tissues have a *LH* -sensitive (activation constant) or *LH*-responsive adenylate cyclase comparable to that in the CL of the cycle. Thus, properties of the primate CL after superovulation varied markedly with the type and length of gonadotropin treatment employed for follicular stimulation. The findings support the concept that gonadotropin-regulated events in the developing follicle(s) are important determinants of the subsequent character of the primate CL.

19/3,AB/32
DIALOG(R)File 155:MEDLINE(R)

05830352 87193476 PMID: 2883138
Results of *human* *menopausal* *gonadotropin* therapy at the Boston Hospital for Women (1979-1981).

Jones KP; Ravnikar VA; Schiff I
International journal of fertility (UNITED STATES) Mar-Apr 1987, 32 (2) p131-4, ISSN 0020-725X Journal Code: GR7
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
To evaluate our results with induction of ovulation with human menopausal gonadotropins, we reviewed our experience from 1979 to 1981. Twenty-two women and 89 treatment cycles were evaluated. The patients were assigned to group 1 (amenorrhea, low *FSH* and *LH* , and no evidence of endogenous estrogens, as indicated by lack of withdrawal bleeding after medroxyprogesterone acetate) or group 2 (amenorrhea, with normal gonadotropins and evidence of endogenous estrogens by progestin withdrawal bleeding). Three patients underwent *HMG* therapy for inadequate luteal phase; none of them became pregnant. All patients from group 1 became pregnant (8/8), and 45% (5/11) of patients from group 2 became pregnant. The difference in pregnancy rates is significant (P less than .05). The cumulative pregnancy rate for each group was calculated by the life table method. All the cases of multiple gestation (three) came from group 1, and all the cases of ovarian hyperstimulation (five) came from group 2. In summary, in our experience patients from group 1 had a higher pregnancy rate and a greater incidence of multiple gestation than patients in group 2, who had a greater chance of developing ovarian hyperstimulation.

19/3,AB/33
DIALOG(R)File 155:MEDLINE(R)

05734595 89305797 PMID: 2978123
Ovulation induction for in-vitro-fertilization and embryo transfer applying decapeptyl (DTRP-6 *LH*/RH) in combination with *HMG* or *FSH*.
Mettler L; Argiriou C; Abd-el Maeboud K; Steinmuller H; Semm K Department of Obstetrics and Gynecology, Christian-Albrechts-University, Kiel, FRG.
Experimental and clinical endocrinology (GERMANY, EAST) Mar 1988, 92 (3) p245-51, ISSN 0232-7384 Journal Code: EPA
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
47 patients out of the IVF-program of the Department of Obstetrics and Gynecology University of Kiel, who demonstrated in previous stimulation cycles premature *LH* surges, were treated in two modalities with a down regulation applying the GnRN-analogue decapeptyl (DTRP-6 *LH*/RH) and a concomitant *HMG*- or *FSH*-stimulation. The down-regulation was started after ovulation up to a negative *LH*/RH test followed by a concomitant gonadotropin stimulation in group 1. In group 2 a parallel treatment with decapeptyl and *HMG* or *FSH* was performed from day 2 of the cycle. 10 husbands of the punctured patients had pathological sperm. In both groups 6 patients were discarded from of the stimulation protocol as their oestradiol responses were not adequate, sperm contamination was detected late in one case, and in one patient a premature *LH* surge occurred once again. In 36 patients vaginal follicular punctures were performed. With respect to pregnancies group 1 revealed a much higher pregnancy rate than group 2. It seemed better to start the down-regulation with the GnRH-analogue decapeptyl in the luteal phase of the previous cycle. The treatment with decapeptyl should not only be applied in patients with previous *LH* surges but also in order to establish a synchronous follicular maturation in ovulating patients treated for in-vitro fertilization, or gamete-intra-Falloppian-tube-transfer.

19/3,AB/34
DIALOG(R)File 155:MEDLINE(R)

05661798 88283584 PMID: 3135179
Continuous subcutaneous infusion of *human* *menopausal* *gonadotropin* in anovulatory women with decreased *FSH*/*LH* ratio and androgen excess.
Kuroda G; Yano K; Suginami H
Department of Obstetrics and Gynecology, Ehime University School of Medicine, Japan.
Endocrinologia japonica (JAPAN) Feb 1988, 35 (1) p27-37, ISSN 0013-7219 Journal Code: EG5
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Ten women of polycystic ovarian-type (PCO-type) anovulation, having a decreased ratio of *FSH* to *LH* and androgen excess, resistant to the previous clomiphene, bromocriptine and/or daily im injections of human menopausal gonadotropine (*hMG*), were treated with continuous sc infusion of 150 IU/day *hMG*. The treatment was initiated on cycle day 2-5 and continued until the dominant follicle reached 20 mm or more in diameter, when an im bolus of 10,000 IU human chorionic gonadotropin was given. The treatment elevated the geometric mean of pretreatment serum *FSH* (8.6 mIU/ml) to 15.9 mIU/ml (p less than 0.001), while serum *LH* decreased from 29.4 mIU/ml to 20.7 mIU/ml (p less than 0.01). This resulted in a highly significant increase in the *FSH*/*LH* ratio from 0.29 to 0.77 (p less than 0.0001). Follicle enlargement was demonstrated in 13 of the 14 treatment cycles, 12 of which were ovulatory. Pregnancy ensued in 4 cases, 1 of which was a quadruplet pregnancy. Continuous infusion of *hMG* was indicated as an effective way of inducing ovulation in PCO-type anovulation resistant to

conventional methods of ovulation induction.

19/3,AB/35
DIALOG(R)File 155:MEDLINE(R)

05660880 88255373 PMID: 3133251
A randomized comparative study of purified follicle stimulating hormone and *human* *menopausal* *gonadotropin* after pituitary desensitization with Buserelin for superovulation and in vitro fertilization.
Bentick B; Shaw RW; Iffland CA; Burford G; Bernard A
Academic Department of Obstetrics and Gynaecology, Royal Free Hospital, London, United Kingdom.
Fertility and sterility (UNITED STATES) Jul 1988, 50 (1) p79-84, ISSN 0015-0282 Journal Code: EVF
Languages: ENGLISH
Document type: Clinical Trial; Journal Article; Randomized Controlled Trial
Record type: Completed
Twenty patients entered a randomized, crossover study of purified follicle-stimulating hormone (pure-*FSH*) or *human* *menopausal* *gonadotropin* (*hMG*) superovulation, 2 ampules per day after pituitary desensitization with the luteinizing hormone-releasing hormone (*LH*-RH) analogue Buserelin (D-Ser tBu6 *LH* -RH 1-9 ethylamide) nasal spray. There were no cycles cancelled. Six patients conceived (five on pure-*FSH*, one on *hMG*). There were 24.2 +/- 2.5 (mean +/- standard error of the mean [SEM]) ampules of pure-*FSH* and 24.3 +/- 3.6 ampules of *hMG* stimulation required. There were similar numbers of preoperation follicles: 6.9 +/- 1.0 on *hMG* and 6.6 +/- 1.1 on pure-*FSH*, of oocytes collected; 8.5 +/- 1.4 on *hMG* and 5.8 +/- 1.4 on pure-*FSH*, and of pre-embryos achieved; 5.1 +/- 0.9 on *hMG* and 3.4 +/- 1.0 on pure-*FSH*; on either treatment. The fertilization rate on *hMG* was 60% and on pure- *FSH* was 55%. Pre-embryo transfer rates were 3.2 +/- 0.3 in the *hMG* group and 2.7 +/- 0.4 in the pure-*FSH* group. There were no differences in serum *FSH*, *LH*, estradiol, or progesterone levels between the *hMG* and pure-*FSH* groups. Mean +/- SEM luteal phase length was 10.6 +/- 0.4 days in the nonpregnant cycles.

19/3,AB/36
DIALOG(R)File 155:MEDLINE(R)

05659973 88229399 PMID: 3131463
Ovarian response and induction of ovulation with *human* *menopausal* *gonadotropin* of different ratio of *FSH* to *LH* content in women with ovarian insufficiency]
Koyama T; Kamata S; Kubota T; Ohara M; Ichimura M; Saito M Department of Obstetrics and Gynecology, School of Medicine, Tokyo Medical and Dental University, Tokyo.
Nippon Sanka Fujinka Gakkai zasshi (JAPAN) Apr 1988, 40 (4) p445-51, ISSN 0300-9165 Journal Code: INR
Languages: JAPANESE
Document type: Journal Article
Record type: Completed
Human *menopausal* *gonadotropin* (*hMG*) with different ratios of *FSH* to *LH* content (*FSH*: *LH* = 1.2:1 (GNR 1.2), *FSH*:*LH* = 1.6:1 (GNR 1.6), *FSH*:*LH* = 3:1 (GNR 3) in biological activity, respectively) was used in this study to examine the effects of these hMGs on ovary, and subsequent follicular maturation and ovulation. In 5 women, 300 IU of *hMG* (GNR 1.2, GNR 1.6 and GNR 3) was injected in turns during different midfollicular phases of the cycle (day 5-day 9) and serum estradiol (E2) was measured at 0, 24 hrs, 48 hrs, 72 hrs after injection to assess ovarian response to different *hMG*. Serum E2 response at 24 hrs, 48 hrs, 72 hrs after injection of *hMG* compared to the preinjected E2 level were 2.2, 1.8, and 1.5 fold with GNR 1.2; 2.6, 2.4 and 1.9 fold with GNR 1.6; and 2.2, 2.4 and 2.3 fold with GNR 3, respectively. These hMGs were administered in turns to women who were suffering from amenorrhea (6 cases), anovulatory (8 cases) and luteal phase dysfunction (10 cases) for treatment of ovarian dysfunction. The mean doses of *hMG* per cycle required to induce ovulation were 1,125 IU with GNR 1.2, 1,050 IU with GNR 1.6 and 925 IU with GNR 3 in these 24 women. The success rates for ovulation with GNR 1.2, GNR 1.6 and GNR 3 were 70.8, 79.2 and 87.5%. The appearance rates for ovarian hyperstimulation syndrome (OHSS) with GNR 1.2, GNR 1.6, and GNR 3 were 4.2, 8.3 and 8.3%, respectively. These results infer that a different ratio of *FSH* to *LH* in *hMG* has an effect on follicular maturation and ovulation, and that the increase in the rate of ovulation and prevention of OHSS may accompany the regulating of this ratio, and that *hMG* with a higher *FSH* content (ratio of *FSH* to *LH* is more than three) should be studied further as a promising agent to use in inducing ovulation in women.

19/3,AB/37
DIALOG(R)File 155:MEDLINE(R)

05659803 88225414 PMID: 3131160
Ovarian response of individuals to different doses of *human* *menopausal* *gonadotropin*.
Benadiva CA; Ben-Rafael Z; Strauss JF; Mastroianni L; Flickinger GL Department of Obstetrics and Gynecology, Hospital of the University of Pennsylvania, School of Medicine, Philadelphia 19104.

Fertility and sterility (UNITED STATES) Jun 1988, 49 (6) p997-1001, ISSN 0015-0282 Journal Code: EVF
Contract/Grant No.: F5-WI5060, PHS
Languages: ENGLISH
Document type: Journal Article
Record type: Completed

Hormonal profiles were compared in 14 ovulatory women who were treated with two different doses of gonadotropins in successive in vitro fertilization cycles. All patients suffered from mechanical causes of infertility. Serum estradiol (E2), follicle-stimulating hormone (*FSH*), luteinizing hormone (*LH*), and progesterone (P) were measured daily during the follicular phase. Women were arbitrarily classified as high responders (E2 greater than 1000 pg/ml on the day of human chorionic gonadotropin administration, n = 8) or as low responders (E2 less than 1000 pg/ml, n = 6), according to the peak E2 levels during the cycle when they received 3 ampules of *human* *menopausal* *gonadotropin* (*hMG*). When patients were treated with 3 ampules of *hMG*, serum *FSH*, *LH* , and P concentrations increased significantly during the follicular phase in high responders but remained unchanged in low responders. When these patients were treated with 2 ampules of *hMG*, the temporal profiles of the hormones were similar, but the magnitude of increases in serum levels of gonadotropins and sex steroids was significantly reduced in high responders. The authors conclude that temporal individuality of endocrine profiles cannot be altered by varying the dose of gonadotropin. Increases in hormone levels accompanying a high response to *hMG* can, however, be dampened by lowering the dose. In contrast, hormone concentrations are not influenced by changing the dose of *hMG* in low responders.

19/3,AB/38
DIALOG(R)File 155:MEDLINE(R)

05658122 88167231 PMID: 3127248

Variation in the biologic and biochemical characteristics of *human* *menopausal* *gonadotropin*.

Cook AS; Webster BW; Terranova PF; Keel BA

Department of Obstetrics and Gynecology, University of Kansas School of Medicine, Wichita 67214.

Fertility and sterility (UNITED STATES) Apr 1988, 49 (4) p704-12, ISSN 0015-0282 Journal Code: EVF
Languages: ENGLISH
Document type: Journal Article
Record type: Completed

Lot differences in the biopotency of *human* *menopausal* *gonadotropin* (*hMG*) were evaluated and the potential biochemical basis was investigated. The in vivo biopotency of *hMG* was assessed by a unique bioassay that evaluates the number of ova shed in the cyclic hamster in response to *hMG* administration. Significant variation in *hMG* lots was observed using this assay. When subjected to chromatofocusing, *hMG* displayed five immunoreactive follicle-stimulating hormone (*FSH*) isohormones and nine luteinizing hormone (*LH*) isohormones. The relative distribution of *FSH*, but not *LH* isohormones, was slightly but significantly different between the lots tested. These data indicate that significant differences exist in the ability of commercially available *hMG* to stimulate follicular development and ovulation. The biochemical basis for these differences in in vivo biopotency remains to be elucidated.

19/3,AB/39
DIALOG(R)File 155:MEDLINE(R)

05654751 88117028 PMID: 3123581

Ovulation induction with a combination of LHRH analogue and *hMG* pulsatile subcutaneous administration in PCO patients]

Nakamura Y; Yoshimura Y; Tamaoka Y; Yamada H; Iizuka R; Suzuki M Department of Obstetrics and Gynecology, Kyorin University School of Medicine, Tokyo.

Nippon Sanka Fujinka Gakkai zasshi (JAPAN) Dec 1987, 39 (12) p2157-64, ISSN 0300-9165 Journal Code: INR
Languages: JAPANESE
Document type: Journal Article
Record type: Completed

The pulsatile subcutaneous administration of *hMG* (*hMG* therapy) and treatment with a combination of luteinizing hormone releasing hormone analogue (Buserelin) and *hMG* (combined therapy) were used to induce ovulation in 9 patients with polycystic ovary syndrome (PCO). Ovulation was observed in all twelve treatment cycles in the combined therapy, and two cases (delivery at term, and abortion) of pregnancy were confirmed. In the *hMG* therapy, ovulation occurred in 22 cycles of 26 treatment cycles. Ovarian hyperstimulation occurred in one cycle in the combined therapy and in 5 cycles (3 ovulated patients) in the 26 *hMG* therapy. The total dose per cycle of *hMG* required to induce ovulation in the combined therapy (1,700 +/- 203IU) was significantly lower than in the *hMG* therapy (2,344 +/- 223IU). In response to Buserelin administration, *LH* and *FSH* increased transiently and then declined to the normal range observed in the early follicular phase. The reduced *LH* level was sustained throughout the *hMG* administration. The concentration of *FSH* increased in response to *hMG* administration, resulting in a change in the *LH*/*FSH* ratio. The *LH*/*FSH* ratio in the combined therapy was significantly lower than in the *hMG* therapy. The present data demonstrated

that pulsatile subcutaneous administration of *hMG* associated with Buserelin was effective in inducing ovulation in patients with PCO with a low incidence of serious side effects.

19/3,AB/40
DIALOG(R)File 155:MEDLINE(R)

05635295 87276731 PMID: 3111899
Ovulation induction with pulsatile gonadotropin-releasing hormone and continuous *human* *menopausal* *gonadotropin* in polycystic ovarian disease]
Kuroda G
Nippon Naibunpi Gakkai zasshi (JAPAN) Mar 20 1987, 63 (3) p247-59, ISSN 0029-0661 Journal Code: EZV
Languages: JAPANESE
Document type: Journal Article
Record type: Completed
Various treatments have been applied to polycystic ovarian (PCO) type of anovulation. However, none of them was definitive in terms of the efficacy and side effects. Six anovulatory women of PCO type were treated with pulsatile gonadotropin-releasing hormone (GnRH) of various pulse intervals and continuous *human* *menopausal* *gonadotropin* (*hMG*). The efficacy and rationale of the treatments were discussed. The subjects were diagnosed PCO by GnRH test and/or laparoscopy. They did not ovulate with clomiphene, clomiphene-hCG and *hMG* -hCG therapies. Their pretreatment serum *FSH* and *LH* levels and *FSH*/*LH* ratios were 6.9 +/- 1.2 mIU/ml, 15.7 +/- 5.1 mIU/ml, and 0.54 +/- 0.19 (Mean +/- SD), respectively. The treatment consisted of 3 protocols: 1) pulsatile GnRH (5-10 micrograms/pulse) of 90 min interval, 2) pulsatile GnRH (5-10 micrograms/pulse) of 120 min interval and 3) continuous *hMG* (150 IU/day) through subcutaneous route. Follicular growth was monitored sonographically and an intramuscular bolus of 10,000 IU hCG was given when the dominant follicle reached 20 mm in diameter. During both GnRH treatments serum *FSH* levels and *FSH*/*LH* ratios did not elevate substantially. Serum *LH* , E2 and PRL levels elevated acutely and transiently during the initial phase of GnRH treatments. Follicular growth was observed in a small fraction of the cases, but none of them ovulated. In contrast, continuous *hMG* treatment induced significant elevation in serum *FSH* levels (8.2 +/- 1.7 mIU/ml; p less than 0.01) and *FSH*/*LH* ratios (1.73 +/- 0.57; p less than 0.001). Transient hyperprolactinemia was accompanied with the preovulatory E2 rise. All the cases ovulated and 3 singleton pregnancies followed. These findings draw conclusions as follows. Pulsatile GnRH administration may desensitize the pituitary presumably due to increased GnRH pulse frequency as a consequence of two independent pulse generators, intrinsic and exogeneous. It may induce transient hyperprolactinemia through a paracrine system between gonadotrophs and lactotrophs. As a due course pulsatile GnRH therapy is questionable for ovulation induction in cases with functioning hypothalamic-pituitary axis. The fact that continuous *hMG* effectively induced follicle maturation with elevated *FSH*/*LH* ratios suggested that *FSH* dominance might be a prerequisite for folliculogenesis. The fluctuating nature of gonadotropins might not be mandatory for folliculogenesis.

19/3,AB/41
DIALOG(R)File 155:MEDLINE(R)

05633408 87224438 PMID: 3108422
Steroid profiles in patients with amenorrhea during induction of ovulation with *HMG*]
Hidaka T; Hirato K; Shimizu A; Yanaihara T; Nakayama T
Nippon Sanka Fujinka Gakkai zasshi (JAPAN) Apr 1987, 39 (4) p663-9, ISSN 0300-9165 Journal Code: INR
Languages: JAPANESE
Document type: Journal Article
Record type: Completed
Serum concentrations of various hormones in seven normal women were measured daily for 5 days before and after ovulation. Steroid levels were also measured in severe amenorrheic patients during the induction of ovulation with *HMG*-HCG. Blood samples from the patients of II grade amenorrhea were collected on the day when the cervical mucus increased more than 200 mm3 in *HMG* therapy. HCG was given after the blood samples were obtained. Ovulation was successfully induced in six patients and they were classified as group I. In 8 patients induction of ovulation did not succeed and these patients were classified as group II. Hormone levels including *LH*, *FSH*, estradiol (E2), progesterone (P4), 17 alpha OH-P4 (17P4), delta 4 androstenedione (delta 4 A), testosterone (Tes.), pregnenolone (P5), 17 alpha OH-P5 (17P5), DHA, delta 5 androstenediol (delta 5 AD), and 20 alpha OH-P4 (20P4) were measured by specific RIA. The following results were obtained. Steroid levels during normal ovulatory cycle: Levels of E2 (380 +/- 16 pg/ml), P5 (6.9 +/- 4.1 ng/ml), and Tes. (3.3 +/- 1.2 ng/ml) showed a peak on the day before *LH* surge. A significant increase in P4, 17P5 and 20P4 levels was observed after ovulation. Hormone levels in group I: *FSH* in group I was significantly higher while *LH* was lower than that in normal women measured during -1 to -3 days from *LH* surge. On the other hand, among the steroids measured, significantly low Tes. and high 17P5, and E2 levels were noticed in group I. Comparison of hormone levels between

group I and II: *FSH* and *LH* levels showed no significant difference between the two groups.(ABSTRACT TRUNCATED AT 250 WORDS)

19/3,AB/42
DIALOG(R)File 155:MEDLINE(R)

05632771 87209450 PMID: 3107358
Combined administration of human chorionic gonadotropin and *human* *menopausal* *gonadotropin* in idiopathic male infertility] Mizutani M; Moriyama H; Sanda N; Fujiwara E; Yamasaki A; Yoneda K; Sagami K
Hinyokika kiyo (JAPAN) Jan 1987, 33 (1) p51-4, ISSN 0018-1994 Journal Code: 27K
Languages: JAPANESE
Document type: Journal Article
Record type: Completed
Clinical experiences of HCG-*HMG* therapy for 56 cases of idiopathic male infertility were studied. Serum levels of *LH*, *FSH* and testosterone were measured before therapy. Sperm density improved in 25% of all cases. In the low *FSH* group, sperm density showed a high rate of improvement. The basal *FSH* was the best indicator to predict the prognosis of fertility. Additional measurements of *LH* and *FSH* response to GnRH gave further information on the prospect of fertility.

19/3,AB/43
DIALOG(R)File 155:MEDLINE(R)

05630907 87155459 PMID: 3103549
Preovulatory serum gonadotropin levels in *hMG* stimulated menstrual cycles in pregnant and nonpregnant patients.
van Uem JF; Acosta AA; Garcia JE; Rosenwaks Z
Archives of gynecology (GERMANY, WEST) 1987, 240 (1) p49-56, ISSN 0170-9925 Journal Code: 6YQ
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
In a group of patients undergoing in vitro fertilization, 10 pregnant and 10 nonpregnant, cycles were analysed in retrospect in relation to gonadotropin and steroid hormones. All patients were similar in terms of age, body surface area and initial stimulation protocol. The increase in follicles stimulating hormone (*FSH*) was significantly higher in the pregnant group through cycle day 8 as compared with cycle day 3 before stimulation. A significant increase in the nonpregnant group was never detectable; the mean *FSH* levels rather decreased to the baseline value during stimulation after a slight nonsignificant increase. The levels of luteinizing hormone (*LH*) decreased significantly in pregnant and nonpregnant patients during stimulation. No significant difference in the *FSH*/*LH* ratio between the pregnant and nonpregnant group was encountered. Although the mean serum estrogen in the follicular phase and the serum estrogen and progesteron values in the luteal phase were higher in the pregnant patients, no statistically significant difference between groups could be demonstrated, until luteal day 11. It is believed from this study, that a 15-20% increase in serum *FSH* levels over baseline during the early and mid follicular phase is required for adequate follicular development and steroidogenesis. The determination of serum gonadotropins in the follicular phase in patients who failed to conceive, might reveal differences, which can account for failures in *hMG* induced cycles.

19/3,AB/44
DIALOG(R)File 155:MEDLINE(R)

05494978 90152432 PMID: 2533578
Results of the use of a pure urinary *FSH* stimulation regime in patients unsuccessfully treated with *hMG* in an in vitro fertilization program.
Grillo M; Buck S; Freys I; Mettler L
Department of Obstetrics and Gynecology, Christian Albrecht University, Kiel, FRG.
Gynecologic and obstetric investigation (SWITZERLAND) 1989, 28 (4) p169-73, ISSN 0378-7346 Journal Code: FYA
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
63 infertile patients who failed in achieving pregnancy for several cycles with *human* *menopausal* *gonadotropin* stimulation protocol in our in vitro fertilization program were subsequently treated with urinary *FSH* regime. In 25 of these patients, the leading diagnosis was an elevated basal *LH*/*FSH* ratio (i.e. above 2), 29 women had an irreparable tubal factor, 9 patients had endometriosis, and 21 couples suffered from an additional male factor. The *FSH* stimulation protocol was initiated on day 2 of the cycle, the highest doses were given on the first days and reduced thereafter. Hormone measurements concerning estradiol and *LH* were started on day 2 of the cycle, ultrasonic evaluation on day 7 of the cycle. After 48 pelviscopic follicle punctures and 39 embryotransfers 12 cases resulted in clinical pregnancies. One case terminated in a miscarriage and 2 pregnancies were of ectopic location.

19/3,AB/45
DIALOG(R)File 155:MEDLINE(R)

05452385 90071877 PMID: 2511747
Direct ovulatory response with *human*

menopausal *gonadotropin* of *FSH*/*LH* ratio 4 to 1.
Koyama T; Hagino N; Cothron AW; Saito M
Department of Cellular and Structural Biology, University of Texas Health Science Center, San Antonio.
American journal of Chinese medicine (UNITED STATES) 1989, 17 (1-2) p25-8, ISSN 0192-415X Journal Code: 3E4
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The experiment was designed to examine if *human* *menopausal* *gonadotropin* (Gonadoryl, GNR, Mochida, Tokyo) influences the ovary and induces ovulation. When fifteen I.U. of GNR 4 (the ratio of *FSH* to *LH* is 4 to 1) was given on 28 days of age to immature female rats, ovulation was observed within 24 hours. Neither administration of GNR 1.6 (*FSH* to *LH* ratio is 1.6 to 1) nor GNR 3.1 (*FSH* to *LH* ratio is 3.1 to 1) induced ovulation. Administration of sodium pentobarbital (Nembutal) on the afternoon in GNR 4 treated rats did not block ovulation. It infers that GNR 4 acts on the ovary directly and induces ovulation within 24 hours.

19/3,AB/46
DIALOG(R)File 155:MEDLINE(R)

05448851 89360844 PMID: 2504848
Continuous subcutaneous infusion of GnRH agonist: effective dosage in the treatment of endometriosis and its influence on the ovarian response to *human* *menopausal* *gonadotropin*]
Masaoka K; Kitazawa M; Watanabe H; Kumasaka T
Department of Obstetrics and Gynecology, Dokkyo University School of Medicine, Tochigi.
Nippon Sanka Fujinka Gakkai zasshi (JAPAN) Jun 1989, 41 (6) p729-36, ISSN 0300-9165 Journal Code: INR
Languages: JAPANESE
Document type: Journal Article
Record type: Completed
This study was designed to compare the clinical and hormonal efficacy of the treatment for endometriosis using continuous infusion of three different doses of GnRH agonist (A). In addition, we examined the ovarian responsiveness to *human* *menopausal* *gonadotropin* (*hMG*) administration during GnRH-A treatment. Thirteen endometriosis patients were divided into 3 groups and given different doses. GnRH-A (Buserelin) was infused continuously through the subcutaneous route at rates of 200 micrograms (Group I; n = 5), 100 micrograms (Group II, n = 4) and 10 micrograms (Group III; n = 4) per day for 24 weeks. After the start of treatment, serum estradiol (E2) was suppressed to the menopausal range within 2 weeks and thereafter maintained this range until 24 weeks in each group. The *LH* and *FSH* response to a GnRH Challenge test was completely abolished within 2 weeks in 3 groups. Although serum *FSH* decreased to below the pretreatment value within a week, the *FSH* level was significantly lower in groups I and II than in group III until 8 weeks. No difference in the *LH* level during the treatment was seen among the 3 groups. After completion of the 24 weeks' treatment, *FSH* increased rapidly, and ovulation returned within 4 to 6 weeks in each group. Pregnancy was achieved in two patients in group I, one patient in group II and one patient in group III during cycles 2 and 5. Serum E2 increased to 200-300 pg/ml in 3 out of 7 patients treated with *hMG* during GnRH-A infusion, whereas no increase in E2 was seen in the remaining 4 patients.(ABSTRACT TRUNCATED AT 250 WORDS)

19/3,AB/47
DIALOG(R)File 155:MEDLINE(R)

05447694 89325703 PMID: 2502437
A pharmacodynamic comparison of human urinary follicle-stimulating hormone and *human* *menopausal* *gonadotropin* in normal women and polycystic ovary syndrome.
Anderson RE; Cragun JM; Chang RJ; Stanczyk FZ; Lobo RA
Department of Obstetrics and Gynecology, University of Southern California, Los Angeles.
Fertility and sterility (UNITED STATES) Aug 1989, 52 (2) p216-20, ISSN 0015-0282 Journal Code: EVF
Contract/Grant No.: MO1-RR-43, RR, NCRR
Languages: ENGLISH
Document type: Clinical Trial; Journal Article; Randomized Controlled Trial
Record type: Completed
We performed a pharmacodynamic comparison of human urinary follicle-stimulating hormone (hFSH) and *human* *menopausal* *gonadotropin* (*hMG*) to characterize differences in the bioavailability of luteinizing hormone (*LH*) and follicle-stimulating hormone (*FSH*), as well as to compare estrogen responses in normal women and those with polycystic ovary syndrome (PCOS). Ten women with PCOS and ten normal ovulatory controls were randomized to receive a single dose (2 ampules) of either hFSH or *hMG*. Serum *LH* decreased significantly following hFSH with responses occurring earlier in controls (24.5 +/- 10.9% after 30 minutes) than in PCOS patients (27.3 +/- 7.5% after 18 hours). After *hMG*, *LH* increased only in controls (33.8 +/- 16.3%). An *FSH* increment following hFSH was observed in both PCOS patients (54.7 +/- 24.8%) and controls (74.6 +/- 36.8%), with peak responses at 6 and 4 hours, respectively. However, after *hMG*, *FSH* increased only in controls. The *LH*/*FSH* ratio after hFSH decreased, with the nadir

at 18 hours (1.438 +/- 0.183) being similar to baseline *LH*/*FSH* ratios of controls (1.433 +/- 0.341). Serum estradiol (E2) increased following *hMG*, with peak responses after 18 hours, in both PCOS patients (75.4 +/- 28.6%) and controls (88.5 +/- 32.5%). The peak E2 response to hFSH was observed to be earlier in PCOS patients (147 +/- 34%), occurring after 12 hours, compared with controls (58 +/- 29% after 18 hours).

19/3,AB/48
DIALOG(R)File 155:MEDLINE(R)

05241708 89225798 PMID: 3245536
Effect of toki-shakuyaku-san on ovulation induced by *human* *menopausal* *gonadotropin* in rats.
Koyama T; Hagino N; Cothron AW; Saito M
Department of Cellular and Structural Biology, University of Texas Health Science Center, San Antonio.
American journal of Chinese medicine (UNITED STATES) 1988, 16 (3-4) p169-72, ISSN 0192-415X Journal Code: 3E4
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
One hundred and thirty-five immature female rats were treated with Toki-Shakuyaku-San (TSS:500 mg/kg, Bwt in drinking water) beginning at 25 days of age and continuing during experimental sessions. Fifteen IU of the *human* *menopausal* *gonadotropin* (*hMG*:Gonadoryl:GNR:GN R 4 contains 4 to 1 ratio of *FSH* and *LH*) was injected intraperitoneally on the morning of 28 days of age, and ovulation (presence of tubal ova) was examined on the morning of 29, 30 and 31 days of age. GNR 4 alone induced ovulation at 29 days of age (70%) and at 30 days of age (35%); however, no ovulation was observed at 31 days of age. TSS treatment alone causes 30% to ovulate at 31 days of age. When GNR 4 was combined with TSS treatment, animals demonstrated ovulation at 31 days of age, that is, they ovulated at 29 days of age (93%), at 30 days of age (30%) and at 31 days of age (90%). These results infer that TSS treatment may accelerate the chain of events in the neuroendocrine control on ovulation, thus causing more frequent ovulation in rats.

19/3,AB/49
DIALOG(R)File 155:MEDLINE(R)

04997304 85289775 PMID: 3928676
Male hypogonadotropic hypogonadism: factors influencing response to human chorionic gonadotropin and *human* *menopausal* *gonadotropin*, including prior exogenous androgens.
Ley SB; Leonard JM
Journal of clinical endocrinology and metabolism (UNITED STATES) Oct 1985, 61 (4) p746-52, ISSN 0021-972X Journal Code: HRB Contract/Grant No.: P-32-AM-07247, AM, NIADDK; P-50-HD-12629, HD, NICHD Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Although testosterone (T) therapy is sufficient for maturation and maintenance of secondary sex characteristics in hypogonadal men, gonadotropins are required for stimulation of spermatogenesis. Thirteen men with hypogonadotropic hypogonadism received treatment with hCG, followed in 12 by the addition of *human* *menopausal* *gonadotropin* (*hMG*). All initially had undetectable serum *LH* and *FSH* and low T levels and were azoospermic with small testes. During therapy, all achieved normal male levels of T. Twelve of 13 had marked and continuous increase in testicular volume. Three men had sperm in the ejaculate with hCG treatment alone. All but 1 patient developed sperm in their seminal fluid during combined hCG and *hMG* therapy. Two men achieved three pregnancies, and 2 more had semen that produced hamster oocyte penetration assays in the fertile range during the protocol period. Four of 5 who achieved sperm densities greater than 1 million/ml while receiving combined therapy maintained or increased sperm production while receiving continued hCG therapy after *hMG* was withdrawn. We examined the response to gonadotropin therapy of men who had received previous T therapy and those who had not. There were no differences in rapidity or degree of response, as assessed by rise in serum T, increase in testis volume, or maximal sperm density achieved. Multiple pituitary deficits and cryptorchidism were negative prognostic factors. In summary, the prognosis for successful stimulation of spermatogenesis in men with hypogonadotropic hypogonadism treated with hCG/*hMG* is good and not adversely affected by prior androgen treatment. Despite undetectable serum *FSH* levels, hCG treatment was sufficient to both initiate and maintain spermatogenesis in some patients.

19/3,AB/50
DIALOG(R)File 155:MEDLINE(R)

04738546 84204934 PMID: 6232977
Serum appearance kinetics of *human* *menopausal* *gonadotropin* (*HMG*) after intramuscular administration in women] Cinetique d'apparition serique de la gonadotrophine menopausique humaine (*HMG*) apres administration intra-musculaire chez la femme. Dalem AM; Demoulin A; Troisfontaines-de Marneffe F; Lambotte R; Franchimont P
Comptes rendus des seances de la Societe de biologie et

de ses filiales (FRANCE) 1983, 177 (4) p405-11, ISSN 0037-9026 Journal Code: CA2 Languages: FRENCH
Document type: Journal Article
Record type: Completed
Intramuscularly administered *HMG* in women induces an increase of serum *FSH* after 2 hours. Maximal values are reached between the 6 th and the 24 th hour and remain statistically increased until the 48 th hour. An important individual variability is however observed. The modifications of serum *LH* are inconstant.

19/3,AB/51
DIALOG(R)File 155:MEDLINE(R)

04457383 82151931 PMID: 6801737
The effect of indomethacin on spontaneous and *human* *menopausal* *gonadotropin* induced pressure changes in the tissue and arterial vascular system from human ovaries perfused in vitro. Spatling L; Stahler E; Mohr K; Buchholz R
Prostaglandins (UNITED STATES) Jan 1982, 23 (1) p77-83, ISSN 0090-6980 Journal Code: Q76
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Eight human ovaries were perfused in a closed recirculating system with a semisynthetic, hemoglobin-free medium. Arterial and intraovarian pressures were recorded simultaneously. In three experiments spontaneous pressure changes were noticed. In five experiments pressure changes were induced with *human* *menopausal* *gonadotropin* (*hMG*) (approximately 70mIU/ml follicle stimulating hormone (*FSH*) and 40mIU/ml luteotrophic hormone (*LH*) II. IRP-*hMG*). Frequency and amplitude of pressure changes in the arterial system and fluctuations in tissue pressure were reduced with indomethacin (20 micrograms/ml). In one experiment 40 micrograms/ml indomethacin had been used. In spite of the high dose of indomethacin arterial and tissue pressure changes were not abolished in all experiments. Therefore it is assumed that vascular and tissue activities are not mediated by prostaglandins only.

19/3,AB/52
DIALOG(R)File 155:MEDLINE(R)

04456196 83081638 PMID: 6816742
Combined *hMG* /hCG treatment in subfertile men with idiopathic normogonadotrophic oligozoospermia.
Schill WB; Jungst D; Unterburger P; Braun S
International journal of andrology (DENMARK) Oct 1982, 5 (5) p467-77 , ISSN 0105-6263 Journal Code: GQK
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Forty-eight patients with idiopathic normogonadotrophic oligozoospermia were treated with *hMG* plus hCG over a period of 3 months. Total sperm output increased by an average of 15.3 million spermatozoa per ejaculate and a similar significant increase was seen in the percentage of motile spermatozoa. Sixteen of the 48 men increased their sperm output by 25 million or more. Follow-up information was available in 33 patients. Ten pregnancies were reported within one year after initiation of treatment. Six of 12 responders impregnated their wives, whereas only 4 pregnancies were reported in a group of 21 non-responders. Endocrinological investigations showed no differences in mean basal levels of *LH* and *FSH* , or in the gonadotrophin response to a 100 micrograms GnRH stimulation between responders and non-responders. However, mean basal plasma testosterone concentration was significantly lower in the responder group than in the non-responders. Responsiveness to gonadotrophin treatment tended to be better in patients with basal plasma testosterone concentration lower than 4.5 ng/ml. Combined *hMG*/hCG treatment in subfertile men with idiopathic oligozoospermia seems to be efficient in only a small proportion of cases.

19/3,AB/53
DIALOG(R)File 155:MEDLINE(R)

04443739 82054052 PMID: 6795255
A comparative study of monitoring induction of ovulation using clomiphene and *HMG*-HCG. Hormonal and ultrasound profiles (author's transl)] Etude comparative des monitorages des inductions de l'ovulation par clomifene et *hMG*-hCG. Profils hormonaux et echographiques. Salat-Baroux J; Uzan S; Giacomini P; Scemama H; Vuillard E; Boccara V Journal de gynecologie, obstetrique et biologie de la reproduction (FRANCE) 1981, 10 (4) p369-74, ISSN 0368-2315 Journal Code: IAZ Languages: FRENCH
Document type: Journal Article
Record type: Completed
The authors have studied daily hormone monitoring (Estradiol 17B, *FSH*, *LH* , Progesterone) and ultrasound (the size of the follicles and the number of the follicles) in 17 inductions using Clomiphene and 16 using *HMG* and HCG in cases mainly of dysovulation, but also of anovulation, in women who had previously been treated by induction that had failed. They establish the difference in the results obtained as far as (Estradiol 17B concerned, as far as the number of follicle that were stimulated or the size of the pre-ovulatory follicle, according to whether Clomiphene

or sequential *HMG*-HCG had been used as a method of induction. They analyse the liability of the criteria for screening by plasma levels and by ultrasound and the correlation between these two parameters.

19/3,AB/54
DIALOG(R)File 155:MEDLINE(R)

03947560 85027906 PMID: 6436078
The response of ovarian function to *HMG*-HCG and bromocriptine therapies in hyperprolactinemic patients]
Matsuoka M; Imura H; Aso T; Okuda K
Nippon Naibunpi Gakkai zasshi (JAPAN) May 20 1984, 60 (5) p647-58, ISSN 0029-0661 Journal Code: EZV
Languages: JAPANESE
Document type: Journal Article
Record type: Completed
Plasma hormonal changes were analysed in patients with hyperprolactinemia who conceived following Bromocriptine therapy. Following the administration of *HMG* -HCG and Bromocriptine, serial plasma samples were collected from the cases. Plasma levels of *FSH*, *LH*, prolactin (PRL), estrone (E1), estradiol (E2), 17-hydroxyprogesterone (17-P), 20 alpha-dihydroprogesterone (20 alpha-P), progesterone (P) were determined simultaneously using specific radioimmunoassays. Pretreatment PRL levels, 180--420 ng/ml, were normalized by 7.5--12.5 mg/day of Bromocriptine treatment causing a rapid decrease in plasma PRL, reaching a plateau within several days. The first *LH* surge at midcycle after the start of the Bromocriptine treatment was established at 10--50 days. In the patients the first mid-cycle *LH* surge was observed, but the luteal phase was definitely short, as demonstrated by plasma progestins levels. The results from the present longitudinal studies on hyperprolactinemia revealed characteristic changes accompanied by the restoration of the hypothalamic-pituitary-ovarian function during the treatment period.

19/3,AB/55
DIALOG(R)File 155:MEDLINE(R)

03941305 84132670 PMID: 6421627
Human *menopausal* *gonadotropin* stimulation in monkeys: blockade of the luteinizing hormone surge by a highly transient ovarian factor.
Littman BA; Hodgen GD
Fertility and sterility (UNITED STATES) Mar 1984, 41 (3) p440-7, ISSN 0015-0282 Journal Code: EVF
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Women and monkeys treated with *human* *menopausal* *gonadotropin* (*hMG*) often fail to demonstrate timely luteinizing hormone (*LH*) or follicle-stimulating hormone (*FSH*) surges despite serum estradiol (E2) levels sufficient to elicit positive feedback of *LH* and *FSH* secretion. Here we explored the mechanism of this blockade of estrogen-mediated positive feedback by *hMG* and the duration of this effect in acutely ovariectomized monkeys. Cycling cynomolgus monkeys (n = 14) were administered *hMG* (22.5 IU, intramuscularly) daily beginning on cycle day 3. Three monkeys received an E2-benzoate challenge on day 10, resulting in peak E2 levels of 892 +/- 313 pg/ml, without subsequent *LH* or *FSH* surges. Four monkeys underwent bilateral ovariectomy on day 12, followed within 60 to 90 minutes by gonadotropin-releasing hormone (GnRH) administration (15 micrograms, intravenously). Five intact monkeys underwent a similar GnRH challenge. *LH* response to GnRH in the intact monkeys was significantly suppressed in comparison with the ovariectomized group. None of the animals manifested an *FSH* response to GnRH administration. Two additional monkeys did have a spontaneous *LH* surge during *hMG* administration. We conclude that *hMG* stimulates the production of an ovarian factor(s) which blocks the pituitary *LH* response to GnRH. This blockade of GnRH action on the pituitary may be the mechanism by which *hMG* stimulation prevents estrogen-mediated positive feedback of *LH* secretion. The putative ovarian factor(s) has a relatively short circulatory half-life and/or binding time, resulting in loss of its blocking activity within 90 minutes after bilateral ovariectomy. Evidence is presented to suggest that this factor(s), designated gonadotropin surge-inhibiting factor, belongs to an amorphous group of nonsteroidal ovarian hormones that remain to be further characterized.

19/3,AB/56
DIALOG(R)File 155:MEDLINE(R)

02869599 76092438 PMID: 1245245
Sequential use of clomiphene citrate and *human* *menopausal* *gonadotropin* in ovulation induction.
Kistner RW
Fertility and sterility (UNITED STATES) Jan 1976, 27 (1) p72-82, ISSN 0015-0282 Journal Code: EVF
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
In an effort to diminish the incidence of multiple pregnancy, ovarian hyper-stimulation syndrome, and the excessive cost of *human* *menopausal* *gonadotropin* (*HMG*) administration, a sequence of Clomid-*HMG* -human chorionic gonadotropin (HCG) was used in 80 patients with infertility due to prolonged

amenorrhea. Criteria for this therapeutic regimen were: (1) normal seminal fluid analysis and postcoital test; (2) lack of withdrawal bleeding from progesterone following amenorrhea of more than 6 months' duration; (3) normal x-ray of the sella turcica and visual fields; (4) low serum follicle-stimulating hormone (*FSH*) and luteinizing hormone (*LH*) levels; (5) normal endoscopic examination; and (6) lack of response to clomiphene in excessive dose (200 mg daily for 5 days) or prolonged dose (100 mg daily for 10 days) with or without HCG, or apparent ovulatory response to the above sequence for five or six consecutive cycles without pregnancy. Clomiphene was administered in a dose of 100 mg daily for 7 days. *HMG* was then given in the following manner: two ampules daily for 4 days, then one ampule daily for 2 days (75 IU of *FSH* and 75 IU of *LH*/ampule). After a 24-hour interval without treatment, 10,000 IU of HCG were given and 2000 IU of HCG 4 days later. Twenty-three pregnancies occurred in 80 patients. However, 15 of the first 25 patients became pregnant--in these patients the only abnormality noted was lack of ovulation. Six additional pregnancies occurred subsequent to one or more unsuccessful cycles. Multiple pregnancies occurred in only two patients (twins delivered at 32 weeks in one and an abortion of five fetuses at 20 weeks in another). However, multiple pregnancy did not occur in any patient whose urinary estrogen level was monitored and in whom the level was 100 mug or less when the HCG was given. The ovarian hyperstimulation syndrome did not occur in any patient.

19/3,AB/57
DIALOG(R)File 155:MEDLINE(R)

02409180 76134726 PMID: 766699
Male hypogonadotrophic hypogonadism: successful treatment of infertility with *HMG* + HCG (author's transl)]
Hypogonadisme hypogonadotrope masculin: succes du traitement de la sterilite par H.M.G. + H.C.G
Gayral MN; Millet D; Mandelbaum J; Serfaty D; Netter A
Annales d'endocrinologie (FRANCE) Sep-Oct 1975, 36 (5) p227-41, ISSN 0003-4266 Journal Code: 54O
Languages: FRENCH
Document type: Journal Article
Record type: Completed
Ten typical cases of male eunuchoidism (two with anosmia) are reported. After administration of clomifene citrate to five patients there was no change in blood levels of gonadotrophins in four cases; in the fifth, a small and transitory increase of *LH* was noted. The intravenous injection of LHRH (100 mcg) to five patients induced an increase of serum *LH* in all cases and serum *FSH* in three cases. The initial site of the dysfunction is possibly hypothalamic with secondary gonadotrophic pituitary insufficiency. Among six patients desiring paternity, prolonged treatment (for 36 to 98 weeks), with HCG(1700-7000 I.U. weekly) + *HMG* (450-825 I.U. FSG weekly) resulted in the appearance of spermatozoa in the seminal fluid in five cases and a pregnancy was obtained in four cases. Methods of treatment are discussed.

19/3,AB/58
DIALOG(R)File 155:MEDLINE(R)

02352164 76229006 PMID: 937395
Effect of clomiphene citrate upon amount and duration of *human* *menopausal* *gonadotropin* therapy.
March CM; Tredway DR; Mishell DR
American journal of obstetrics and gynecology (UNITED STATES) Jul 1 1976, 125 (5) p699-704, ISSN 0002-9378 Journal Code: 3NI Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Human *menopausal* *gonadotropin* (*HMG*) was given to 10 patients who failed to ovulate after treatment with clomiphene citrate. Prior to one or more treatment courses, 200 mg. of clomiphene were administered daily for 5 days; at least one other treatment course was not preceded by clomiphene. Before therapy, progesterone in oil was administered and serum *FSH*, *LH*, and estrogen were measured. Those patients who had normal serum *FSH* levels and had withdrawal bleeding following progesterone had a reduction in amount and duration of *HMG* requirements for those patients with low serum *FSH* who did not withdraw. Thus, sequential clomiphene-*HMG* therapy is of benefit only for those women with normal serum *FSH* levels and is the treatment of choice.

19/3,AB/59
DIALOG(R)File 155:MEDLINE(R)

02337920 76086568 PMID: 1203013
Male hypogonadotropic hypogonadism. Success of treatment of sterility with *HMG* plus HCG]
Hypogonadisme hypogonadotrope masculin. Succes du traitement de la sterilite par *HMG* + HCG
Gayral MN; Millet D; Mandelbaum J; Serfaty D; Netter A
Annales d'endocrinologie (FRANCE) Jul-Aug 1975, 36 (4) p211-2, ISSN 0003-4266 Journal Code: 54O
Languages: FRENCH
Document type: Journal Article

Record type: Completed
Ten typical cases of male eunuchoidism (two with anosmia) are reported. After administration of clomifene citrate to five patients, there is no change in blood levels of gonadotrophins in four cases; in the fifth, a small and transitory increase of *LH* is noted. The intravenous injection of LHRH (100 mug) to five patients induces an increase of serum *LH* in all cases and serum *FSH* in three cases. The initial site of the dysfunction is possibly hypothalamic with secondary gonadotrophic pituitary insufficiency. Among six patients anxious for paternity, prolonged treatment (for 36 to 98 weeks), with HCG (250-1 000 I.U. daily) + *HMG* (65-120 I.U. *FSH* daily) results in appearance of spermatozoa in the seminal fluid in five cases and a pregnancy was obtained in four cases. Comments are done upon methods of treatment. ? ds

Set Items Description
S1 35699 GONADOTROPINS OR GONADOTROPHINS OR GONADOTROPIC()HORMONE?
S2 3584 COADMINISTRATION OR CO()ADMINISTER
S3 2188 1 AND S2
S4 21 S1 AND S2
S5 0 ADMINIST? 5N (FSH AND LH)
S6 2551 FSH AND LH/TI
S7 161 S6 AND ADMINIST?/TI
S8 3 S7 AND PY>1998
S9 158 S7 NOT S8
S10 1697 FSH/TI AND LH/TI
S11 91 S10 AND ADMINIST?/TI
S12 0 S11 AND PY>1998
S13 7195 HUMAN()MENOPAUSAL()GONADOTROPIN OR HMG
S14 515 S13 AND (LH AND FSH)
S15 1902 S13/TI
S16 135 S15 AND S14
S17 6 S16 AND PY>1998
S18 129 S16 NOT S17
S19 59 S18 AND (LH AND FSH)/AB
? s administ?/ti
S20 82834 ADMINIST?/TI
? s (fsh and (lh or tsh or hcg))_/ti
>>>Invalid syntax
? s (fsh and (lh or tsh or hcg))/ti
3229 FSH/TI
6702 LH/TI
3237 TSH/TI
2632 HCG/TI
S21 1769 (FSH AND (LH OR TSH OR HCG))/TI
? s s20 and s21
82834 S20
1769 S21
S22 99 S20 AND S21
? s s22 and py>1998
99 S22
1465955 PY>1998
S23 0 S22 AND PY>1998
? s s20 (2n) s21
82834 S20
1769 S21
S24 40 S20 (2N) S21
? t s24/3,ab/all

24/3,AB/1
DIALOG(R)File 155:MEDLINE(R)

07995377 94120962 PMID: 8291453
Measurement of serum levels of exogenously *administered* *FSH* and *LH* during ovulation induction therapy.
Mallya S; Abdulla UA; Davis JC
Department of Endocrine Pathology, Fazakerley Hospital, Liverpool, UK. Gynecological endocrinology (ENGLAND) Sep 1993, 7 (3) p167-71, ISSN 0951-3590
Journal Code: 125
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
We conducted a prospective study of blood levels of follicle stimulating hormone (FSH) and luteinizing hormone (LH) following daily intramuscular injection of human menopausal gonadotropin (hMG) containing equal proportions of FSH and LH. Blood samples were collected on alternate days and the resulting changes in the blood levels of the ovarian hormone estradiol were also monitored. Twenty-eight consecutive patients with polycystic ovary syndrome who were between the ages of 25 and 35 years and attending our infertility clinic for ovulation induction therapy and assisted pregnancy were studied. Polycystic ovary syndrome was diagnosed on laparoscopy and as evidenced by high serum LH which was three times greater than FSH in the follicular phase of the menstrual cycle. A male factor for infertility was excluded. Twenty-five out of 28 women (89.3%) receiving hMG responded to therapy by a rise in serum estradiol level (> 1200 pmol/l on day 9). Of the 25 women who responded to hMG, four had live single babies (16%). All four women showed a cumulative rise in mean serum FSH with treatment when measured by standard radioimmunoassay, reaching statistical significance on day 5 ($p < 0.05$). The remaining 21 who failed to become pregnant showed variable changes in mean serum FSH with a sharp rise on day 3 ($p < 0.02$) and a significant fall on day 7 ($p < 0.02$). However, mean serum LH measured by standard radioimmunoassay in all women remained unchanged throughout the period of treatment.(ABSTRACT TRUNCATED AT 250 WORDS)

24/3,AB/2

DIALOG(R)File 155:MEDLINE(R)

07852862 93181621 PMID: 8441861
Pituitary in vitro LH and *FSH* secretion after *administration* of the antiprogesterone RU486 in vivo.
Knox KL; Schwartz NB
Department of Neurobiology and Physiology, Northwestern University, Evanston, Illinois 60208.
Recent progress in hormone research (UNITED STATES) 1993, 48 p523-30, ISSN 0079-9963 Journal Code: R1D
Languages: ENGLISH
Document type: Journal Article
Record type: Completed

24/3,AB/3
DIALOG(R)File 155:MEDLINE(R)

07320625 91039636 PMID: 2122012
Reversal of the toxic effects of cyclosporine on male reproduction and kidney function of rats by simultaneous *administration* of *hCG* + *FSH*.
Seethalakshmi L; Flores C; Diamond DA; Menon M
Division of Urologic Transplantation and Surgery, University of Massachusetts Medical Center, Worcester 01655.
Journal of urology (UNITED STATES) Dec 1990, 144 (6) p1489-92, ISSN 0022-5347 Journal Code: KC7
Contract/Grant No.: R-29 DK 39003, DK, NIDDK
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
We have shown earlier that the administration of cyclosporine impairs testicular function and causes a decrease in sperm counts, sperm motility and fertility. In order to determine whether or not the deleterious effects of CsA could be reversed by hormonal therapy, we injected sexually mature male Sprague Dawley rats with cremaphor + saline or CsA (40 mg./kg./d) alone or in combination with human chorionic gonadotropin (hCG; five micrograms./d/rat) and follicle stimulating hormone (FSH; five micrograms./d/rat). The injections were given subcutaneously for 14 days. As expected, CsA administration decreased the body and reproductive organ weights, testicular and epididymal sperm counts, sperm motility and fertilizing ability. Serum levels of LH were elevated and testosterone was decreased. The administration of FSH + hCG to the CsA treated rats restored the body and reproductive organ weights, sperm counts and motility. Seventy five percent of gonadotropin treated males were fertile as compared to 25% in the CsA treated group. In the hormone treated group, the blood levels of CsA were 50% of that of CsA treated group. In order to verify whether or not the decline in the blood levels of CsA was the cause for the amelioration of CsA-induced changes in the reproductive function, we compared the CsA + hormone treated group with another group treated with five mg./kg./d CsA which had blood levels of CsA comparable to the former group. In the five mg./kg./d group the reproductive functions were significantly lower than the CsA + hormone treated group suggesting, therefore, that the restoration of reproductive functions in the CsA + hormone treated group is a result of hormonal treatment. Administration of CsA (40 mg./kg./d) reduced the kidney weight and increased the levels of serum creatinine: these changes were also ameliorated by the administration of hCG + FSH.

24/3,AB/4
DIALOG(R)File 155:MEDLINE(R)

05963382 88059530 PMID: 3119659
A comparison of treatments with exogenous FSH to promote folliculogenesis in patients with quiescent ovaries due to the continued *administration* of an *LH*-RH agonist.
Sharma V; Williams J; Collins W; Riddle A; Mason B; Whitehead M Department of Obstetrics and Gynaecology, King's College School of Medicine and Dentistry, London, UK.
Human reproduction (ENGLAND) Oct 1987, 2 (7) p553-6, ISSN 0268-1161 Journal Code: HRP
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The circulating levels of plasma follicle-stimulating hormone (FSH), luteinizing hormone (LH) and oestradiol (E2) have been determined in three groups of three subjects during the continuous, subcutaneous administration of an LH-RH agonist (250 micrograms/day) and after the intramuscular injection of urinary FSH (group I, 150 IU daily for 8 days, total 1200 IU; group II, 300 IU on alternate days for four injections, total 1200 IU; and group III, 150 IU on alternate days for four injections, total 600 IU). The level of circulating FSH in group I rose steadily from a geometric mean of 1.11 (pre-injection) to 8.76 U/l (at day 8), while the corresponding levels in groups II and III fluctuated according to the time and dose of the injected material. Twenty-four hours after the injection the mean level of FSH in group II was significantly higher (7.31 U/l) than the corresponding value for group I (2.79 U/l) or group III (3.48 U/l). Only those subjects in group II showed a resumption of folliculogenesis (leading, mean maximum follicular diameters of 16, 13 and 14 mm, respectively) and a corresponding increase in the concentration of plasma E2 (from 22, 43 and 103 to 906, 1477 and 2362 pmol/l, respectively).

24/3,AB/5
DIALOG(R)File 155:MEDLINE(R)

05453335 90101934 PMID: 2513704
Effect of gonadotropin (FSH + LH) and thyrotropin (*TSH*) *administered* with or without endotoxin at the age of three weeks on the response capacity of the thyroid gland in adult rats.
Csaba G; Nagy SU
Department of Biology, Semmelweis University Medical School, Budapest, Hungary.
Acta physiologica Hungarica (HUNGARY) 1989, 74 (2) p115-20, ISSN 0231-424X Journal Code: 1RS
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
At the age of three weeks the experimental animals received either thyrotropin (TSH), or gonadotropin (FSH + LH), or endotoxin (LPS) alone or in combination. The effectivity of the treatments was evaluated at the age of two months (with or without further hormone treatment). Contrastingly to neonatal TSH treatment, TSH treatment at the age of three weeks did not give rise to imprinting. In female animals, however, TSH treatment increased the sensitivity to the related gonadotropin hormone. At the age of three weeks gonadotropin treatment--on its own--did not cause damages to the TSH receptors of the thyroid gland. While in previous experiments neonatal endotoxin treatment damaged considerably the thyroxin production of the adult thyroid gland, after treatments at the age of three weeks no similar effect could be observed. The treatment, however, decreased the sensitivity of the receptors to TSH. In female animals simultaneous administration of endotoxin and TSH led, even without further hormone treatment, to constant increase in T4 level (the increase could also be detected in the adult animal). Imprinting, however, did not develop. In male animals simultaneous administration of endotoxin and gonadotroph hormone decreased considerably the T4 baseline level, and further TSH or gonadotropin treatment was unable to enhance T4 production.

24/3,AB/6
DIALOG(R)File 155:MEDLINE(R)

04884192 85076247 PMID: 6439539
Changes in serum LH and *FSH* following preovulatory *administration* of ethanol in rats.
Marco J; Parafita MA; Alfonso M; Espinosa J
Drug and alcohol dependence (SWITZERLAND) Oct 1984, 14 (2) p215-8, ISSN 0376-8716 Journal Code: EBS
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The effect of different single doses of ethanol (1.0, 2.0 and 4.0 g/kg) on serum LH and FSH has been studied in rats treated during preovulatory periods (18th h of diestrous). High doses of ethanol (2.0 and 4.0 g/kg) decreased serum LH levels at the 18th h of proestrous, 24 h after ethanol administration, inhibiting the preovulatory LH surge. No changes were observed in FSH levels. These effects could be mediated through the inhibition of the hypothalamic releasing factors.

24/3,AB/7
DIALOG(R)File 155:MEDLINE(R)

04444086 82064904 PMID: 6795901
Permanent amplifying effect on the cockerel gonad of hypophysis hormones (*FSH*, *TSH*) *administered* at hatching.
Dobozy O; Shahin MA; Csaba G
Acta morphologica Academiae Scientiarum Hungaricae (HUNGARY) 1981, 29 (1) p19-25, ISSN 0001-6217 Journal Code: 184
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The effect of TSH and FSH was studied by quantitative histological analysis of the gonads in five-week-old cockerels pre-treated with these hormones at hatching. It was concluded that (1) hypophyseal hormones of similar molecular structure are not fully specific in immature animals. At five weeks both FSH and TSH enhance spermatogonium division and spermatogenesis, and increase the number of Sertoli cells. (2) While a single post-hatching dose of hormone has no effect on germinal cells as studied in the fifth week it increases the number of Sertoli cells (3) post hatching FSH-treatment facilitates the effect of hormone treatment at five weeks, amplifying the effect of FSH slightly more than that of TSH. Post hatching TSH-treatment also amplifies the effect of FSH administered at five weeks but does not influence the effect of five-week TSH-treatment on germinal cells. (4) The present results have corroborated earlier findings based on the measurement of gonadal weight and tubule diameter.

24/3,AB/8
DIALOG(R)File 155:MEDLINE(R)

04414293 82012876 PMID: 7024724
Evaluation of the gonadotropic responsiveness of the pituitary to acute and prolonged *administration* of *LH*/*FSH*-releasing hormone (lhrh) in untreated patients with congenital adrenal hyperplasia.
Wajchenberg BL; Pinto H; Achando SS; Kiyan TS; Okada H; Goldman J; Betti RT; Liberman B; Thomsen IL

Metabolism: clinical and experimental (UNITED STATES) Oct 1981, 30 (10) p976-81, ISSN 0026-0495 Journal Code: MUM
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The pituitary gonadotropic responsiveness to acute and prolonged administration of LH/FSH-releasing hormone (LHRH) were assessed in 6 patients with untreated congenital virilizing adrenal hyperplasia (partial 21-hydroxylase deficiency). The oldest subjects had normal response in comparison to females at the midfollicular phase, to the acute infusion of 25 ug LHRH regarding both gonadotropins whereas LH secretory area was decreased during the prolonged (100 ug LHRH in 8 hours) infusion with normal FSH secretion. The two youngest subjects, with higher steroid levels in our series, were either unresponsive on both ways of testing or presented pre-pubertal response.

24/3,AB/9
DIALOG(R)File 155:MEDLINE(R)

03757792 81035196 PMID: 6775419
Increased and prolonged release of lh and *fsh* on intravenous *administration* of a synthetic analogue of lh-rh [d-ser(tbu)6-ea10-lh-rh] in healthy men of various age groups (author's transl)]
Verstarkte und verlangerte Freisetzung von LH and FSH nach intravenoser Verabreichung eines synthetischen LH-RH-Analogons [D-Ser(TBU)6-EA10-LR-RH] bei gesunden Mannern verschiedenen Alters.
Vierhapper H; Waldhausl W
Wiener klinische Wochenschrift (AUSTRIA) Jun 1980, 92 (13) p461-3, ISSN 0043-5325 Journal Code: XOP
Languages: GERMAN
Document type: Journal Article
Record type: Completed
Healthy male subjects of various age groups respond to the administration of D-Ser(TBU)6-EA10-LH-RH, an analogue of LH-RH substituted in positions 6 and 10, by a prolonged and increased release of LH and FSH. Increased serum concentrations of LH and FSH were observed 20 minutes after intravenous administration of the compound. Maximum concentrations of LH and FSH were seen after 60, and 60 to 240 minutes, respectively. Serum concentrations of both gonadotropins remained elevanted for up to 8 hours after the administration of 10 microgram of the LH-RH analogue. A dose response relationship was observed with regard to the serum concentrations of LH and FSH over the range of 1.25 to 5.0 microgram of the LH-RH analogue. The administration of 10 or 20 microgram of the compound, however, did not cause a further rise in plasma FSH, although the release of LH was further enhanced.

24/3,AB/10
DIALOG(R)File 155:MEDLINE(R)

03467208 75208003 PMID: 1170984
Effects of metyrapone *administration* on *LH*, *FSH*, TSH, and prolactin secretion]
Hashimoto H; Miyoshi M; Yozai S; Ogawa N; Takahara J
Horumon to rinsho (JAPAN) Jun 1975, 23 (6) p631-6, ISSN 0045-7167 Journal Code: DCP
Languages: JAPANESE
Document type: Journal Article
Record type: Completed

24/3,AB/11
DIALOG(R)File 155:MEDLINE(R)

03306719 79205785 PMID: 377880
Evaluation of the gonadotrophic responsiveness of the pituitary to acute and prolonged *administration* of *LH*/*FSH*-releasing hormone (LH-RH) in normal females and males.
Pinto H; Wajchenberg BL; Lima FB; Goldman J; Comaru-Schally AM; Schally AV
Acta endocrinologica (DENMARK) May 1979, 91 (1) p1-13, ISSN 0001-5598 Journal Code: ONC
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
In normal females, the injection of 25 microgram of LH-RH (acute test) induced a greater LH and FSH release from the pituitary in the mid-luteal than in the mid-follicular phase of the menstrual cycle. In normal males, the responsiveness to 25 microgram LH-RH was greater than that in females at mid-follicular but not at the luteal stage. The pituitary response to the prolonged LH-RH infusion (0.21 microgram/min/8 h) was similar in both phases of the cycle of the females with a decline in serum gonadotrophins after the 4th hour and was paralleled by a significant increase of plasma oestradiol levels. In males the LH, but not the FSH secretion was lower as compared to female subjects, and gonadotrophin levels did not show a fall during the infusion. The acute injection of 25 microgram LH-RH at the end of a prolonged infusion induced the same response in the female subjects in both phases of the cycle. In males, the acute test following prolonged infusion produced a similar LH secretion, but a lower FSH response than in females. The comparison of the acute test alone and that preceded by a prolonged LH-RH infusion, demonstrated that, in females, the only significant differences consisted of a greater LH secretion in the former test in the mid-luteal phase. In

males there was greater FSH secretion in the acute isolated test than when this test was given after the prolonged infusion.

24/3,AB/12
DIALOG(R)File 155:MEDLINE(R)

03129646 79060316 PMID: 717814
Effects of *FSH* and *LH* *administration* on the testes and seminal vesicles.
Bentley MJ; Gass GH; Leidl W
Andrologia (GERMANY, WEST) Sep-Oct 1978, 10 (5) p357-61, ISSN 0303-4569 Journal Code: 4QP
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Weight increases in the testes of pre-pubertal rodents when FSH was administered were revealed by histological observations to be a result of seminiferous tubule lengthening. LH administration effected a sex accessory gland weight increase (seminal vesicles) but there were no apparent testicular effects. The serum androgen level, in response to increased LH administration, showed a continuous decrease in concentration although there was a significant seminal vesicle weight increase. The evidence presented in this paper leads us to postulate that LH has a sensitizing effect on androgen dependent tissues in the pre-pubertal rodent.

24/3,AB/13
DIALOG(R)File 155:MEDLINE(R)

03003183 77024589 PMID: 824077
Studies of target cells by chronic *administration* of *LH*-RH and TRH, with special reference to the changes of TSH, LH and FSH levels in the pituitary gland and blood]
Soji T; Yoshimural F; Igarashi M; Shishiba Y
Horumon to rinsho (JAPAN) 1976, 24 (8) p721-7, ISSN 0045-7167 Journal Code: DCP
Languages: JAPANESE
Document type: Journal Article
Record type: Completed

24/3,AB/14
DIALOG(R)File 155:MEDLINE(R)

02969095 75105569 PMID: 1090099
LH and FSH in serum after intramuscular *administration* of *LH*/ *FSH*-releasing hormone in normal and hypogonadal men. Jorgensen FS; Kampmann J; Micic S; Roos J; Johnsen SG
Acta endocrinologica (DENMARK) Jan 1975, 78 (1) p1-10, ISSN 0001-5598 Journal Code: ONC
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The increase in serum concentrations of LH and FSH after intramuscular administration of LH/FSH-RH was investigated in normal and hypogonadotrophic hypogonadal males. LH and FSH were measured by specific radio-immunoassays. To evaluate the appropriate dose of LH/FSH-RH for intramuscular administration different doses were administered and with 200 mu g an increase in LH and FSH was found comparable to the results obtained by other investigators using intravenous administration. After the initial studies a simple test including two determinations before LH/FSH-RH administration and one 60 min and 120 min after administration was developed and used in all cases. In 12 normal males a significant increase in the serum concentration of both LH and FSH was found averaging 381% and 148% respectively 60 min after 200 mu g LH/FSH-RH with a slight decrease in LH but not in FSH after 120 min. A positive response similar to that in normal men was observed in 11 hypogonadotrophic hypogonadal patients presenting different clinical pictures. This indicates that in all these patients the hypogonadotrophic state was due to a hypothalamic defect and not to a hypophyseal disorder.

24/3,AB/15
DIALOG(R)File 155:MEDLINE(R)

02652876 80128228 PMID: 394627
Release of LH and *FSH* following *administration* of an LHRH analog in patients with with congenital adrenal hyperplasia] Freisetzung von LH und FSH nach Verabreichung eines LH-RH-Analogons bei Patienten mit adrenogenitalem Syndrom.
Vierhapper H; Waldhausl W
Andrologia (GERMANY, WEST) 1979, 11 (6) p445-8, ISSN 0303-4569 Journal Code: 4QP
Languages: GERMAN
Document type: Journal Article
Record type: Completed
D-Ser(TBU)6-EA10-LH-RH, an analogue of LH-RH with prolonged and increased effect upon the release of LH and FSH, induces in normal male subjects a secretory response of LH and FSH, which is qualitatively different from that seen in normal females. Female patients with increased plasma-concentration of testosterone due to congenital adrenal hyperplasia or adrenal neoplasm present upon the LH-RH-analogue with a secretory response of LH and FSH which is similar to that observed in normal female subjects. It is concluded that elevated plasma-adrogens fail to induce a

masculine pattern of gonadotropin-secretion in patients with a genetically female determination of the hypothalamo-pituitary-gonadal system.

24/3,AB/16
DIALOG(R)File 155:MEDLINE(R)

02632709 77161894 PMID: 322996
Changes of LH and FSH levels in plasma after intaventricular *administration* of *LH*-RH.
Mitro A; Klacansky T; Spona J
Endocrinologia experimentalis (CZECHOSLOVAKIA) Mar 1977, 11 (1) p37-42, ISSN 0013-7200 Journal Code: EFZ
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The possibility of influencing the pituitary through the cerebral ventricle was examined. Synthetic LH-RH was introduced into the third ventricle of male and female rats and after 4 and 8 minutes, the plasma LH and FSH levels were determined by radioimmunoassay. Both in the male female rats, the LH levels were elevated, but FSH levels remained unchanged. The results show that, after intraventricular LH-RH administration, the LH level can be elevated within a few minutes. It is presumed that the non responsiveness of FSH level after LH-RH may support the view on a separate control of release of each of both hormones.

24/3,AB/17
DIALOG(R)File 155:MEDLINE(R)

02616538 78018179 PMID: 333989
Effects of testosterone undecanoate *administration* on *LH* and FSH response during the standard LH-RH test in healthy male volunteers. Mies R; Kicovic PM
Andrologia (GERMANY, WEST) Jul-Sep 1977, 9 (3) p233-6, ISSN 0303-4569 Journal Code: 4QP
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The effects of orally administered testosterone undecanoate (TU) on the pituitary responsiveness to the intravenous injection of 100 microgram of synthetic LH-RH were studied in 10 young healthy male subjects. They were given TU in a daily dose of 160 mg for 14 days. The LH-RH Test was performed before the medication, on day 14, and on the 7th day of the post-treatment phase. Pituitary responsiveness remained normal throughout the whole study. A somewhat lower response for LH was observed in the post-treatment phase, most probably attributable to the increased baseline plasma testosterone levels.

24/3,AB/18
DIALOG(R)File 155:MEDLINE(R)

02421107 77024598 PMID: 788965
Fluctuation of serum LH and *FSH* levels during *administration* of synthetic *LH*-RH in various types of ovarian dysfunction] O S; Takamizawa Y
Horumon to rinsho (JAPAN) 1976, 24 (8) p797-801, ISSN 0045-7167 Journal Code: DCP
Languages: JAPANESE
Document type: Journal Article
Record type: Completed

24/3,AB/19
DIALOG(R)File 155:MEDLINE(R)

02420836 77042141 PMID: 790960
Studies on the gonadotropin response after *administration* of *LH*/*FSH* -releasing hormone (LRH) during pregnancy and after therapeutic abortion in the second trimester.
Jeppsson S; Rannevik G
American journal of obstetrics and gynecology (UNITED STATES) JUN 15 1976, 125 (4) p484-90, ISSN 0002-9378 Journal Code: 3NI Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The gonadotropin response to synthetic LH/FSH-releasing hormone (LRH) was found to be suppressed in the second trimester of pregnancy. The basal levels of plasma FSH were very low and no detectable increase occurred after injection of up to 500 mug LRH intravenously. Five of the women were then tested with 25 mug of LRH intravenously on three occasions during the first month after therapeutic abortion in the second trimester. A rapid normalization of the basal plasma levels of FSH and LH and of the response to LRH occurred. This is in contrast with the pattern after term pregnancy. The possible role of different hormones and of the duration of pregnancy (duration of inhibition) as an explanation for this discrepancy are discussed.

24/3,AB/20
DIALOG(R)File 155:MEDLINE(R)

02407949 76094800 PMID: 1107284
Serum LH concentrations and ovarian activity in cows with repetitive *administration* of *LH*-RH/FSH-RH.
Kinder JE; Adams TE; Chakraborty PK; Tarnavsky GK; Reeves JJ Journal of animal science (UNITED STATES) Dec 1975, 41 (6) p1650-2, ISSN 0021-8812 Journal Code: HC7

Languages: ENGLISH
Document type: Journal Article
Record type: Completed

24/3,AB/21
DIALOG(R)File 155:MEDLINE(R)

02236281 73240168 PMID: 4579943
ICSH(LH) and FSH levels in plasma after i.v. *administration* of *LH*-RH in impaired gonadal function.
Wiegelmann W; Solbach WG; Kley KH; Zimmermann H; Kruskemper HL Acta endocrinologica. Supplementum (DENMARK) 1973, 173 p95, ISSN 0300-9750 Journal Code: ONF
Languages: ENGLISH
Document type: Journal Article
Record type: Completed

24/3,AB/22
DIALOG(R)File 155:MEDLINE(R)

01998384 76066765 PMID: 4619804
Studies on serum and urinary LH and FSH responses to synthetic *LH* -RH *administration* in women with various degrees of ovulatory disturbances (author's transl)]
Koyama K; Isojima S; Kushiki N; Kamada M; Naka O
Nippon Funin Gakkai zasshi (JAPAN) Jul 1 1974, 19 (3) p1-6, ISSN 0029-0629 Journal Code: E61
Languages: JAPANESE
Document type: Journal Article
Record type: Completed

24/3,AB/23
DIALOG(R)File 155:MEDLINE(R)

01998298 75113085 PMID: 4615943
Proceedings: Effect of endogenous LH on luteolysis caused by prostaglandin (PG) F2 alpha: changes in plasma LH and FSH levels of pregnant rats following *administration* of synthetic *LH*-RH and PG F2 alpha and their biological effects]
Yoto I; Okamura H; Okazaki T; Aochi H; Suginami H
Nippon Naibunpi Gakkai zasshi (JAPAN) Feb 20 1974, 50 (2) p658, ISSN 0029-0661 Journal Code: EZV
Languages: JAPANESE
Document type: Journal Article
Record type: Completed

24/3,AB/24
DIALOG(R)File 155:MEDLINE(R)

01998234 75092447 PMID: 4614927
Changes in FSH and LH in the blood after *administration* of *LH* -RH, in cases of 2d degree amenorrhea]
Tanaka S; Nishijima T; Minamikuni H; Kaneue N; Kitasaki M Horumon to rinsho (JAPAN) Oct 1974, 22 (10) p1147-51, ISSN 0045-7167 Journal Code: DCP
Languages: JAPANESE
Document type: Journal Article
Record type: Completed

24/3,AB/25
DIALOG(R)File 155:MEDLINE(R)

01996040 75121404 PMID: 4616299
Premature activation of the hypothalamic-pituitary system in idiopathic precocious puberty: effect of LH-RH and clomiphene *administration* on *FSH* and LH secretion (author's transl)]
Activacion prematura del sistema hipotalamo-hipofisiario en la pubertad precoz: effecto de la hormona hipotalamica liberadora de gonadotropinas (LH-RH) y del clomifen sobre la secrecion de FSH y LH
Soria J; Zarate A; Canales ES; Velaquez N; Carballo O
Revista de investigacion clinica (MEXICO) Jan-Mar 1974, 26 (1) p35-40, ISSN 0034-8376 Journal Code: SCH
Languages: SPANISH
Document type: Journal Article
Record type: Completed

24/3,AB/26
DIALOG(R)File 155:MEDLINE(R)

01995028 75083974 PMID: 4614271
FSH and LH response in the rat after intravenous, intracarotid or subcutaneous *administration* of *LH*-RH.
Greeley GH; Allen MB; Mahesh VB
Proceedings of the Society for Experimental Biology and Medicine (UNITED STATES) Dec 1974, 147 (3) p859-62, ISSN 0037-9727 Journal Code: PXZ
Languages: ENGLISH
Document type: Journal Article
Record type: Completed

24/3,AB/27
DIALOG(R)File 155:MEDLINE(R)

01993435 75052318 PMID: 4611220
Studies on the decreased gonadotropin response after *administartion* of *LH*-*FSH* -releasing hormone during pregnancy and the puerperium.

Jeppsson S; Rannevik G; Kullander S
American journal of obstetrics and gynecology (UNITED STATES) Dec 15 1974, 120 (8) p1029-34, ISSN 0002-9378 Journal Code: 3NI Languages: ENGLISH
Document type: Journal Article
Record type: Completed

24/3,AB/28
DIALOG(R)File 155:MEDLINE(R)

01992855 75049158 PMID: 4610886
Ultrastructural observations on pituitary gonadotrophs following gonadectomy or *administration* of *LH*-*FSH*-releasing hormone in neonatal rats.
Shiino M; Rennels EG
Texas reports on biology and medicine (UNITED STATES) Summer 1974, 32 (2) p561-7, ISSN 0040-4675 Journal Code: VNN
Languages: ENGLISH
Document type: Journal Article
Record type: Completed

24/3,AB/29
DIALOG(R)File 155:MEDLINE(R)

01987358 74265721 PMID: 4600809
Intravenous, intramuscular, subcutaneous and intranasal *administration* of *LH*-*FSH*-RH: the duration of effect and occurrence of asynchronous pulsatile release of LH and FSH. Mortimer CH; Besser GM; Hook J; McNeilly AS
Clinical endocrinology (ENGLAND) Jan 1974, 3 (1) p19-25, ISSN 0300-0664 Journal Code: DCI
Languages: ENGLISH
Document type: Journal Article
Record type: Completed

24/3,AB/30
DIALOG(R)File 155:MEDLINE(R)

01981538 74164901 PMID: 4597608
Blood LH and FSH before and after intravenous synthetic *LH* releasing hormone *administration* in patients with primary hypogonadism]
LH and FSH im Serum vor und nach i.v. Gabe von synthetischem LH-Releasing Hormon bei Patienten mit primarem Hypogonadismus.
Wagner H; Bockel K; Hrubesch M; Fegeler K; Grote G; Hauss WH Verhandlungen der Deutschen Gesellschaft fur Innere Medizin (GERMANY, WEST) 1973, 79 p1238-42, ISSN 0070-4067 Journal Code: X7W
Languages: GERMAN
Document type: Journal Article
Record type: Completed

24/3,AB/31
DIALOG(R)File 155:MEDLINE(R)

01975649 74003628 PMID: 4582418
Effects of short- and long-term *administration* of synthetic *FSH* - and LH-releasing hormone on the parameters assessing menstrual function in women with secondary amenorrhoea]
Die Auswirkung kurz- und langdauernder Verabrichungen des synthetischen FSH- und LH-Releasing Hormons auf die Zyklusfunktionsparameter sekundar amenorrhoischer Frauen.
Schneider WH; Spona J; Matt K
Wiener klinische Wochenschrift (AUSTRIA) Aug 17 1973, 85 (33) p554-8 , ISSN 0043-5325 Journal Code: XOP
Languages: GERMAN
Document type: Journal Article
Record type: Completed

24/3,AB/32
DIALOG(R)File 155:MEDLINE(R)

01974714 74054721 PMID: 4587188
Effect of consecutive *administration* with synthetic *LH* -RH--FSH-RH on LH and FSH release, and on urinary steroids excretion. Seki M; Huang S; Seki K; Okumura T
Acta obstetrica et gynaecologica Japonica (JAPAN) Jul 1972, 19 (3) p179-84, ISSN 0001-6330 Journal Code: 1E2
Languages: ENGLISH
Document type: Journal Article
Record type: Completed

24/3,AB/33
DIALOG(R)File 155:MEDLINE(R)

01942919 72192698 PMID: 4555201
Changes in human serum FSH and *LH* levels following *administration* of synthetic *LH*-rleasing hormone] Aono T; Minamikawa J; Kawamura K; Fukada S; Kobayashi Y
Nippon Sanka Fujinka Gakkai zasshi (JAPAN) Mar 1972, 24 (3) p219-20, ISSN 0300-9165 Journal Code: INR
Languages: JAPANESE
Document type: Journal Article
Record type: Completed

24/3,AB/34
DIALOG(R)File 155:MEDLINE(R)

01936419 72136336 PMID: 4552021
Release of LH and *FSH* after *administration* of synthetic *LH*-releasing hormone.
Kastin AJ; Schally AV; Gual C; Arimura A
Journal of clinical endocrinology and metabolism (UNITED STATES) Apr 1972, 34 (4) p753-6, ISSN 0021-972X Journal Code: HRB Languages: ENGLISH
Document type: Journal Article
Record type: Completed

24/3,AB/35
DIALOG(R)File 155:MEDLINE(R)

01903785 75128293 PMID: 4477032
Changes in ovarian circulation following *FSH* *administration* to *HCG*-prime adult rats.
Cons JM; Kragt CL
Biology of reproduction (UNITED STATES) Nov 1974, 11 (4) p440-6, ISSN 0006-3363 Journal Code: A3W
Languages: ENGLISH
Document type: Journal Article
Record type: Completed

24/3,AB/36
DIALOG(R)File 155:MEDLINE(R)

01828473 74023592 PMID: 4749449
The effect of short-term testosterone *administration* on serum *FSH* , LH and testosterone levels: evidence for selective abnormality in LH control in patients with Klinefelter's syndrome.
Capell PT; Paulsen CA; Derleth D; Skoglund R; Plymate S
Journal of clinical endocrinology and metabolism (UNITED STATES) Nov 1973, 37 (5) p752-9, ISSN 0021-972X Journal Code: HRB Languages: ENGLISH
Document type: Journal Article
Record type: Completed

24/3,AB/37
DIALOG(R)File 155:MEDLINE(R)

01739553 72164931 PMID: 5020417
FSH suppression during short term *HCG* *administration*: a gonadally mediated process.
Reiter EO; Kulin HE; Loriaux DL
Journal of clinical endocrinology and metabolism (UNITED STATES) Jun 1972, 34 (6) p1080-4, ISSN 0021-972X Journal Code: HRB Languages: ENGLISH
Document type: Journal Article
Record type: Completed

24/3,AB/38
DIALOG(R)File 155:MEDLINE(R)

01535028 70078142 PMID: 4188612
Studies on the site of action of oral contraceptive steroids. II. Plasma LH and *FSH* levels after *administration* of antifertility steroids and LH-releasing hormone(LH-RH).
Schally AV; Parlow AF; Carter WH; Saito M; Bowers CY; Arimura A Endocrinology (UNITED STATES) Mar 1970, 86 (3) p530-41, ISSN 0013-7227 Journal Code: EGZ
Languages: ENGLISH
Document type: Journal Article
Record type: Completed

24/3,AB/39
DIALOG(R)File 155:MEDLINE(R)

00547058 68352075 PMID: 5593151
Comparative studies on the induction of human ovulation through combined *administration* of *HCG* and animal as well as human FSH] Vergleichende Untersuchungen uber Ovulationsauslosung beim Menschen durch kombinierte Verabreichung von HCG und tierischem und menschlichem FSH. Groot-Wassink K
Zentralblatt fur Gynakologie (GERMANY, EAST) Aug 26 1967, 89 (34) p1240-9, ISSN 0044-4197 Journal Code: Y5S
Languages: GERMAN
Document type: Journal Article
Record type: Completed

24/3,AB/40
DIALOG(R)File 155:MEDLINE(R)

00324372 66067348 PMID: 5853145
On the elimination of delta-4-androstene-3,17-dione and testosterone following *administration* of choriongonadotropin, *FSH* or testosterone in healthy males and patient with nasopharyngeal fibromas] Uber die Ausscheidung von delta-4-Androsten-3,17-dion und Testosteron nach Applikation von HCG, FSH oder Testosteron bei gesunden Mannern und Nasen-Rachen-Fibromtragern.
Schubert K; Frankenberg G; Albrecht R
Endokrinologie (GERMANY, EAST) Jan 1965, 47 (3) p206-12, ISSN 0013-7251 Journal Code: EHJ
Languages: GERMAN
Document type: Journal Article
Record type: Completed
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